CDX-CA540X/CA590X

SERVICE MANUAL

E Model

Ver 1.0 2002. 12

Photo: CDX-CA540X

• The tuner and CD sections have no adjustments.

Model Name Using Similar Mechanism	NEW
CD Drive Mechanism Type	MG-393XC-121//K
Optical Pick-up Name	KSS-721A

SPECIFICATIONS

CD player section

Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	11 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7% (stereo), 0.5% (mono)
Separation	33 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	AM: 30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	50 W × 4 (at 4 ohms)

General

Outputs	Audio outputs (rear) Power antenna relay control terminal Power amplifier control terminal
Inputs	BUS control input terminal BUS audio input terminal Remote controller input terminal Antenna input terminal
Tone controls	Low: ±10 dB at 60 Hz (XPLOD) Mid: ±10 dB at 1 kHz (XPLOD) High: ±10 dB at 10 kHz (XPLOD)
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 178 × 50 × 180 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 161 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1set) Front panel case (1) Card remote commander RM-X115 (CDX-CA590X)

Note

This unit cannot be connected to a digital preamplifier or an equalizer which is Sony Bus system compatible.

Design and specifications are subject to change without notice.

FM/AM COMPACT DISC PLAYER

9-874-262-01
2002L0400-1
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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

SERVICE NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

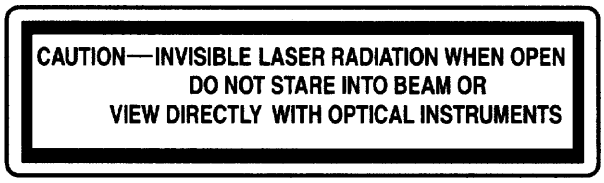
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This label is located on the bottom of the chassis.



This label is located on the drive unit's internal chassis.

When replacing the chassis (T) of mechanism deck which have the "CAUTION LABEL" attached, please be sure to put a new LABEL (OP CAUTION) (3-223-913-01) to the chassis (T).

TEST DISCS

This set can playback CD-R and CD-ROM discs. The following test discs should be used to check the capability:

CD-R test disc TCD-R082LMT (Part No. J-2502-063-1)
CD-RW test disc TCD-W082L (Part No. J-2502-063-2)

Notes on CD-R/CD-RW discs

- You can play CD-Rs (recordable CDs)/CD-RWs (rewritable CDs) designed for audio use on this unit.
  Look for these marks to distinguish CD-Rs/CD-RWs for audio use.

These marks denote that a disc is not for audio use.

- Some CD-Rs/CD-RWs (depending on the equipment used for its recording or the condition of the disc) may not play on this unit.
- You cannot play a CD-R/CD-RW that is not finalized*.

* A process necessary for a recorded CD-R/CD-RW disc to be played on the audio CD player.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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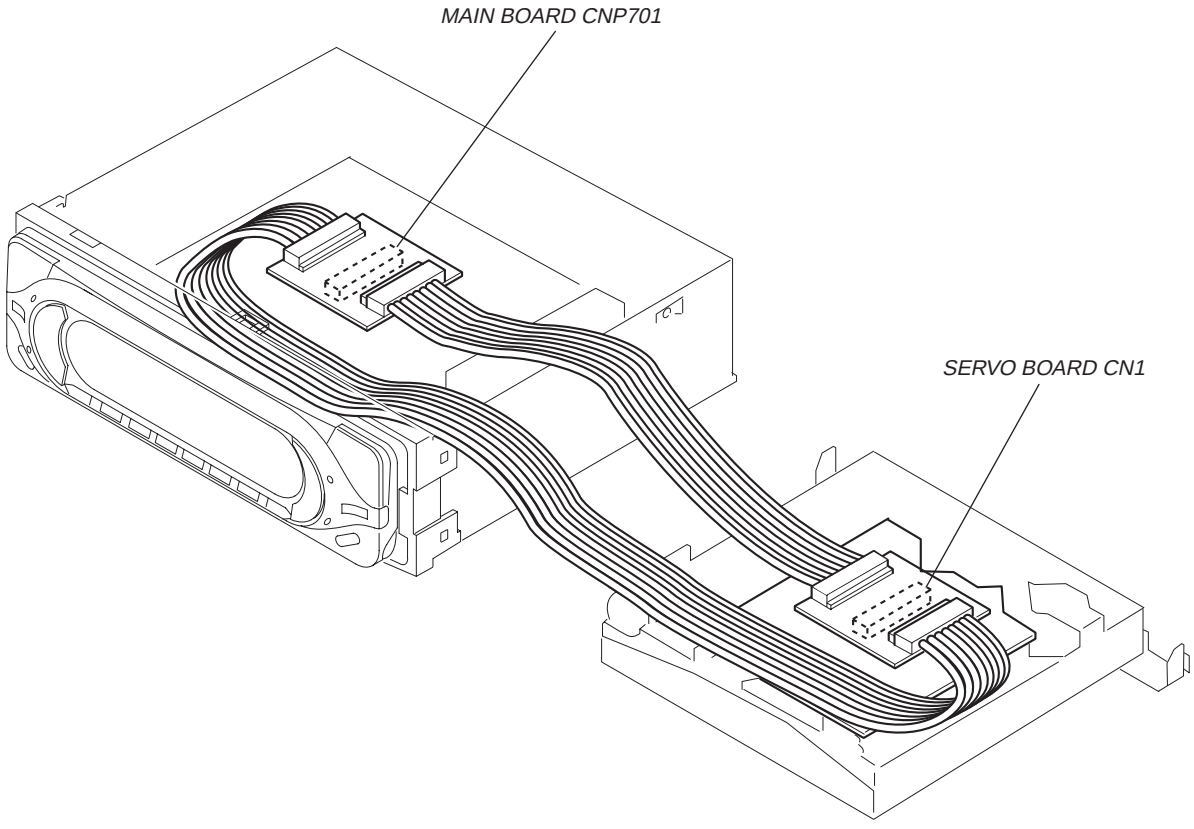
EXTENSION CABLE AND SERVICE POSITION

When repairing or servicing this set, connect the jig (extension cable) as shown below.

• Connect the MAIN board (CNP701) and the SERVO board (CN1) with the extension cable (Part No. J-2502-062-1).

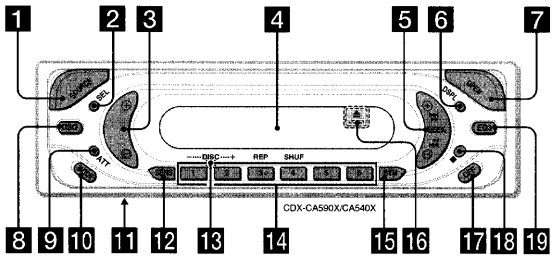


SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls

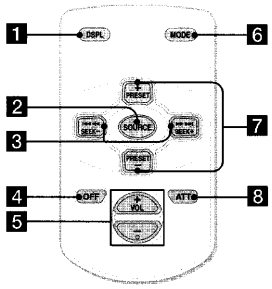
Refer to the pages listed for details.



1 **SOURCE (Power on/Radio/CD/MD) button**
Selecting the source.
2 **SEL (select) button**
Selecting items.
3 **Volume +/– button**
4 **Display window**
5 **SEEK +/– button**
Radio:
Tuning in stations automatically/finding a station manually.
CD/MD:
Skipping tracks/fast-forwarding, reversing a track.
6 **DSPL (display mode change) button** 9, 10
7 **OPEN button** 8, 9
8 **DSO button** 16
9 **ATT (attenuate) button** 14
10 **MODE button**
Changing the operation.
11 **Frequency select switch** (located on the bottom of the unit)
See "Frequency select switch" in the Installation/Connections manual.
12 **SENS button** 12
13 **RESET button** (located on the front side of the unit, behind the front panel) 7
14 **Number buttons** 15
Radio:
Storing the desired station on each number button.
CD/MD:
①: **DISC –** 10
②: **DISC +** 10
③: **REP** 11
④: **SHUF** 11
15 **BTM (Best Tuning Memory) button** 11
16 **⏏ (eject) button** (located on the front side of the unit, behind the front panel) 9
17 **OFF (Stop/Power off) button*** 8, 9
18 **Receptor for the card remote commander**
19 **EQ3 button** 15

*** Warning when installing in a car without an ACC (accessory) position on the ignition switch**
After turning off the ignition, be sure to press and hold (OFF) on the unit until the display disappears.
Otherwise, the display does not turn off and this causes battery drain.

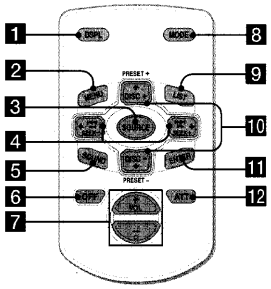
Card remote commander RM-X115 (CDX-CA590X)



The corresponding buttons of the card remote commander control the same functions as those on this unit.

1 **DSPL button**
2 **SOURCE button**
3 **SEEK (+/–) buttons**
4 **OFF button**
5 **VOL (+/–) buttons**
6 **MODE button**
7 **DISC/PRESET (+/–) buttons**
8 **ATT button**

Card remote commander RM-X114 (optional) (CDX-CA540X)



The corresponding buttons of the card remote commander control the same functions as those on this unit.

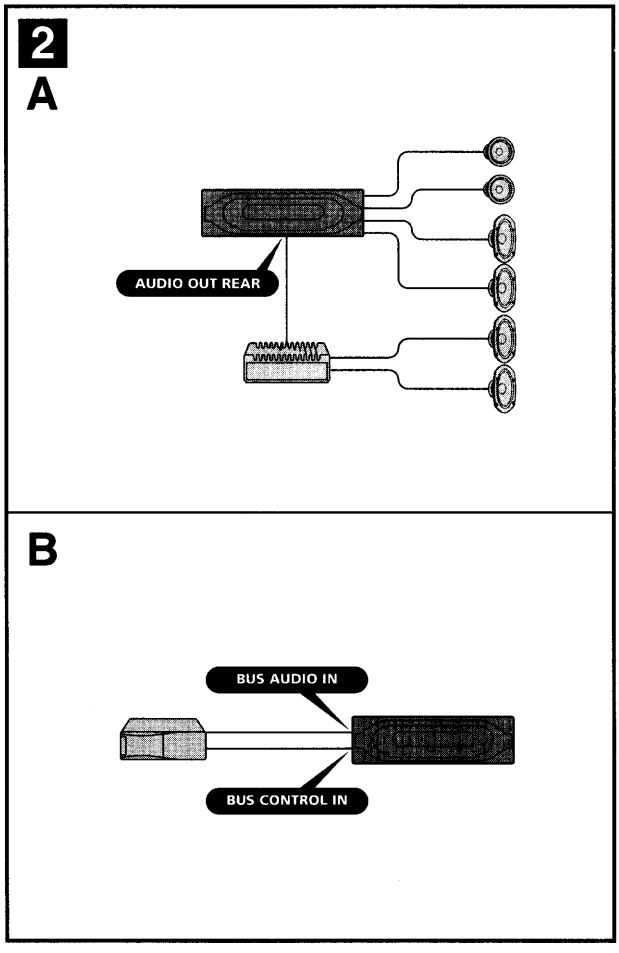
1 **DSPL button**
2 **MENU button***
3 **SOURCE button**
4 **SEEK (+/–) buttons**
5 **SOUND button**
6 **OFF button**
7 **VOL (+/–) buttons**
8 **MODE button**
9 **LIST button***
10 **DISC/PRESET (+/–) buttons**
11 **ENTER button***
12 **ATT button**

** Not available for this unit*

Note
If the display disappears by pressing (OFF), it cannot be operated with the card remote commander unless (SOURCE) on the unit is pressed, or a disc is inserted to activate the unit first.

Tip
Refer to "Replacing the lithium battery" for details on how to replace the batteries (page 17).

Connections



Connection example (2)

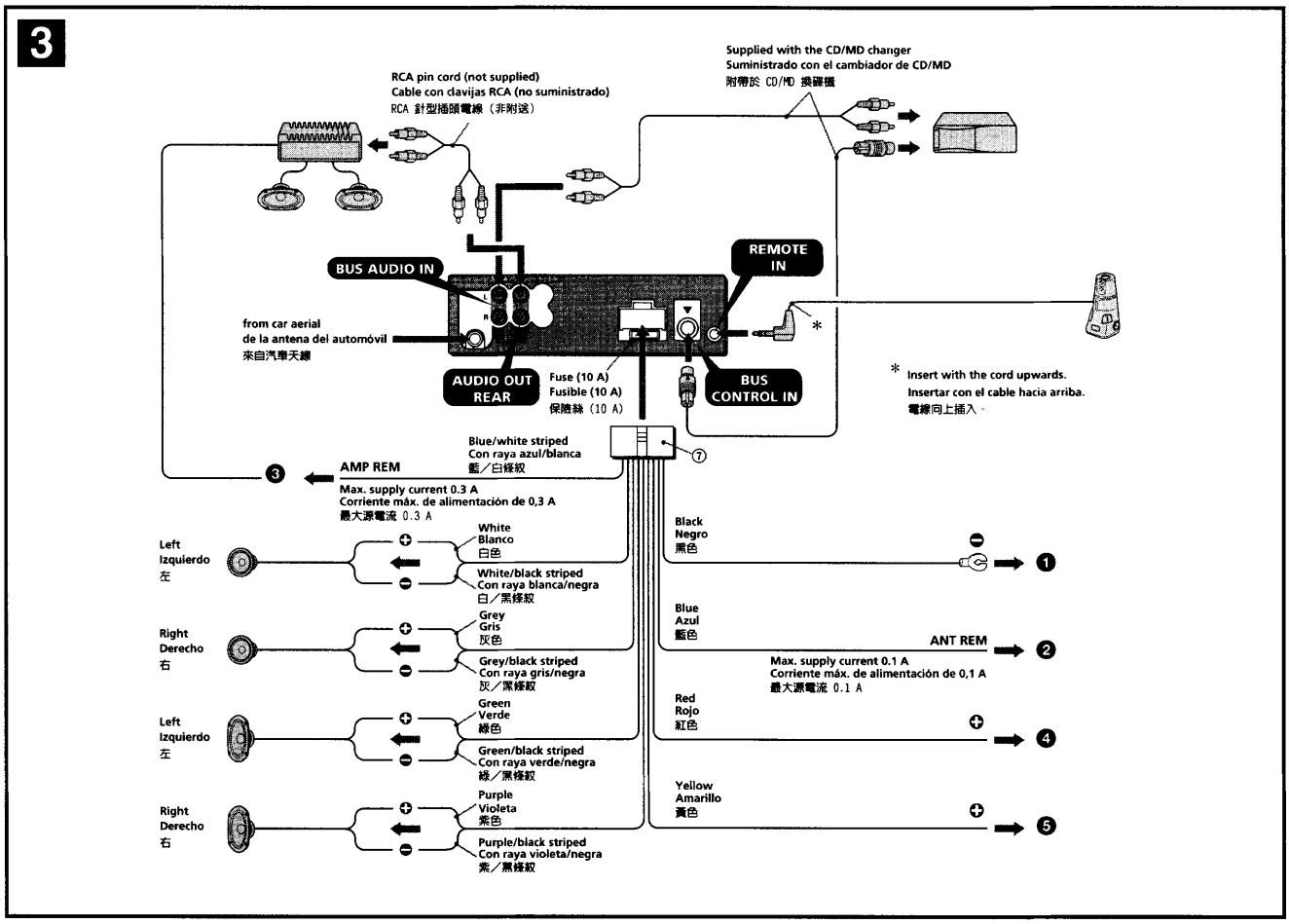
Notes (2-A)
- *Be sure to connect the earth cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

Ejemplo de conexiones (2)

Notas (2-A)
- *Asegúrese de conectar primero el cable de puesta a masa antes de realizar la conexión al amplificador.*
- *Si conecta un amplificador de potencia opcional y no utiliza el incorporado, los pitidos se desactivarán.*

線路連接圖例（2）

注（2-A）
- *務必在接放大器之前連接地線。*
- *如果您連接了選購的功率放大器而不使用內置放大器，將無提示聲功能。*



Connection diagram (3)

❶ **To a metal surface of the car**
First connect the black earth lead, then connect the yellow and red power input leads.

❷ **To the power aerial control lead or power supply lead of aerial booster amplifier**
Notes
- *It is not necessary to connect this lead if there is no power aerial or aerial booster, or with a manually-operated telescopic aerial.*
- *When your car has a built-in FM/AM aerial in the rear/side glass, see "Notes on the control and power supply leads."*

❸ **To AMP REMOTE IN of an optional power amplifier**
This connection is only for amplifiers. Connecting any other system may damage the unit.

❹ **To the +12 V power terminal which is energised in the accessory position of the ignition key switch**
Notes
- *If there is no accessory position, connect to the +12 V power (battery) terminal which is energised at all times.*
  Be sure to connect the black earth lead to a metal surface of the car first.
- *When your car has a built-in FM/AM aerial in the rear/side glass, see "Notes on the control and power supply leads."*

❺ **To the +12 V power terminal which is energised at all times**
Be sure to connect the black earth lead to a metal surface of the car first.

Notes on the control and power supply leads
- *The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner.*
- *When your car has built-in FM/AM aerial in the rear/side glass, connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.*
- *A power aerial without relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.*
- *Do not connect the earth lead of this unit to the negative (–) terminal of the speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.*
- *To avoid a malfunction, do not use the built-in speaker wires installed in your car if the unit shares a common negative (–) lead for the right and left speakers.*
- *Do not connect the unit's speaker cords to each other.*

Diagramas de conexión (3)

❶ **A una superficie metálica del automóvil**
Conecte primero el cable de puesta a masa negro, y después los cables amarillo y rojo de entrada de alimentación.

❷ **Al cable de control de la antena motorizada o al cable de fuente de alimentación del amplificador de antena**
Notas
- *Si no se dispone de antena motorizada ni de amplificador de antena, o se utiliza una antena telescópica accionada manualmente, no será necesario conectar este cable.*
- *Si el automóvil incorpora una antena de FM/AM en el cristal trasero o lateral consulte "Notas sobre los cables de control y de fuente de alimentación".*

❸ **Para conectar a AMP REMOTE IN del amplificador de potencia opcional**
Esta conexión es sólo para amplificadores.
La conexión de cualquier otro sistema puede dañar la unidad.

❹ **Al terminal de alimentación de +12 V que recibe energía en la posición de accesorio del interruptor de la llave de encendido**
Notas
- *Si no hay posición de accesorio, conéctelo al terminal de alimentación (batería) de +12 V que recibe energía sin interrupción.*
  Asegúrese de conectar primero el cable de tierra negro a una superficie metálica del automóvil.
- *Si el automóvil incorpora una antena de FM/AM en el cristal trasero o lateral consulte "Notas sobre los cables de control y de fuente de alimentación".*

❺ **Al terminal de alimentación de +12 V que recibe energía sin interrupción**
Asegúrese de conectar primero el cable de tierra negro a una superficie metálica del automóvil.

Notas sobre los cables de control y de fuente de alimentación
- *El conductor de control de la antena motorizada (azul) suministra +cc 12 V cuando conecte la alimentación del sintonizador.*
- *Si el automóvil dispone de una antena de FM/AM incorporada en el cristal trasero o lateral conecte el cable de control de antena motorizada (azul) o el cable de entrada de alimentación auxiliar (rojo) al terminal de alimentación del amplificador de antena existente. Para obtener información detallada, consulte a su proveedor.*
- *Con esta unidad no es posible utilizar una antena motorizada sin caja de relé.*

Conexión para protección de la memoria
Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, aunque ponga la llave de encendido en la posición OFF.

Notas sobre la conexión de los altavoces
- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 Ω con la capacidad de potencia adecuada para evitar que se dañen.*
- *No conecte los terminales de altavoz al chasis del automóvil, ni conecte los terminales del altavoz derecho con los del izquierdo.*
- *No conecte el cable de puesta a masa de esta unidad al terminal negativo (–) del altavoz.*
- *No intente conectar los altavoces en paralelo.*
- *Conecte solamente altavoces pasivos. Si conecta altavoces activos (con amplificadores incorporados) a los terminales de altavoz, puede dañar la unidad.*
- *Para evitar fallos de funcionamiento, no utilice los cables de altavoz incorporados instalados en el automóvil si su unidad comparte un cable negativo común (–) para los altavoces derecho e izquierdo.*
- *No conecte los cables de altavoz de la unidad entre sí.*

線路連接圖（3）

❶ **連接至汽車的金屬表面**
首先連接黑色接地導線，然後再連接黃色和紅色電源輸入導線。

❷ **連接至電動天線控制導線或天線升壓放大器的電源導線**
註
- *如無電動天線，天線升壓器，或有手動套管式天線，便不須連接此導線。*
- *您汽車的後／側玻璃窗中如果有內置 FM/AM 天線，即請參看"控制線和電源線須知"。*

❸ **連接至選購的功率放大器的 AMP REMOTE IN（放大器遙控輸入）**
本連接僅用於放大器。連接任何其它系統可能會損壞本機。

❹ **連接至在點火鑰匙開關的附件位置上通電的 +12 V 電源端子**
註
- *若沒有附件位置，則請連接至始終通電的 +12 V 電源（電池）端子。*
  必須首先將黑色接地導線連接至汽車的金屬表面。
- *您汽車的後／側玻璃窗中如果有內置 FM/AM 天線，即請參看"控制線和電源線須知"。*

❺ **連接至始終通電的 +12 V 電源端子**
必須首先將黑色接地導線連接至汽車的金屬表面。

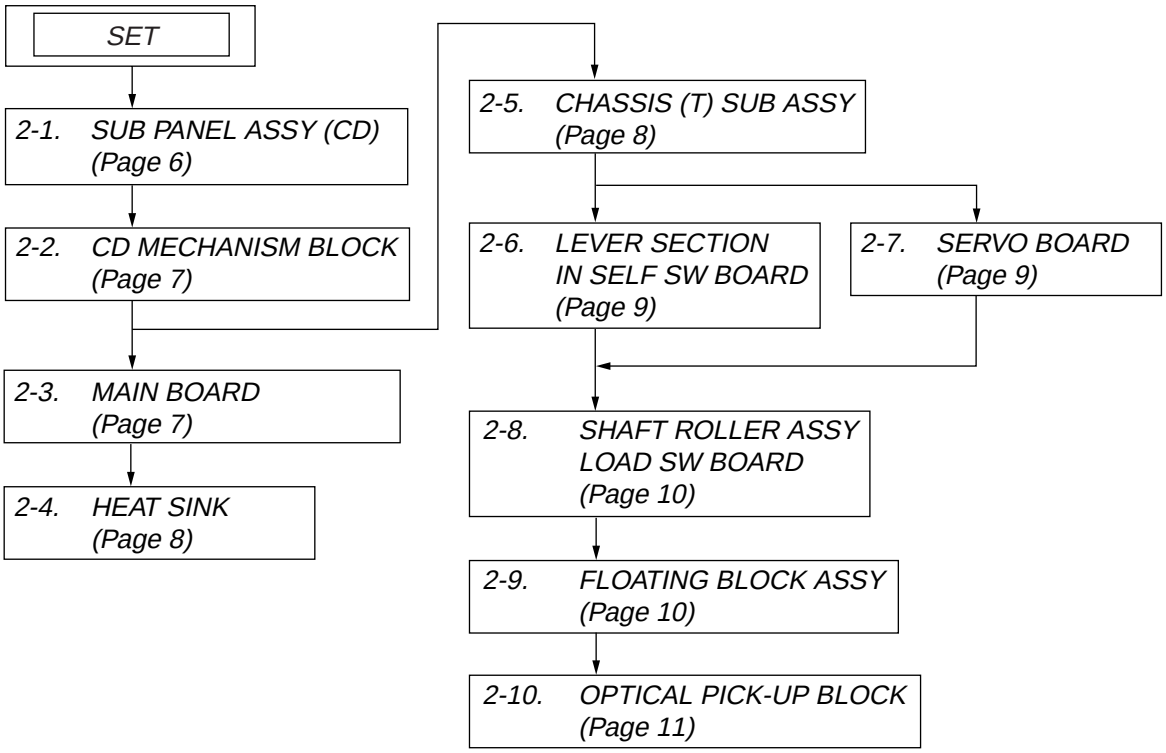
控制線和電源線須知
- *接通調諧器電源時，電動天線的控制導線（藍色）便能提供 +12 V 直流電。*
- *若您的汽車後／側玻璃窗上有內置 FM/AM 天線，須將電動天線控制導線（藍色）或輔助電源輸入導線（紅色）連接到現有天線升壓器上的電源端子上。詳細內容請向銷售商諮詢。*
- *本機不能使用不具備繼電器盒的電動天線。*

保持記憶的線路連接法
當連接好黃色電源輸入導線時，即使汽車發動機點火鑰匙關閉，電源仍將對記憶電路供電。

連接揚聲器時的注意事項
- *連接揚聲器電線以前，請先關閉本機電源。*
- *使用阻抗爲 4–8Ω 且具有足夠功率處理容量的揚聲器，以免損壞揚聲器。*
- *不要將揚聲器端子連接到車身上，或將右揚聲器端子與左揚聲器端子相連接。*
- *切勿將本機的接地導線連接至揚聲器的負（–）接線端。*
- *揚聲器不可並聯連接。*
- *請僅連接無源揚聲器。若將有源揚聲器（帶內置放大器）連接到揚聲器端子上會損壞本機。*
- *若本裝置使用左、右揚聲器的共用負極（–）導線，爲了避免故障，切勿使用已安裝在汽車內的內置揚聲器導線。*
- *請勿將本裝置揚聲器導線相互連接。*

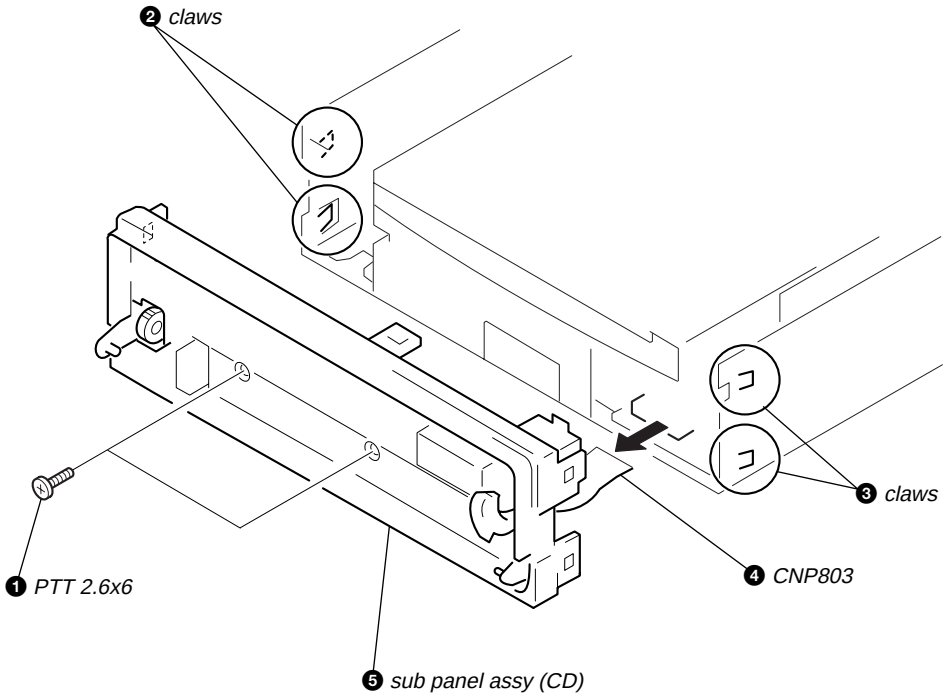
SECTION 2
DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

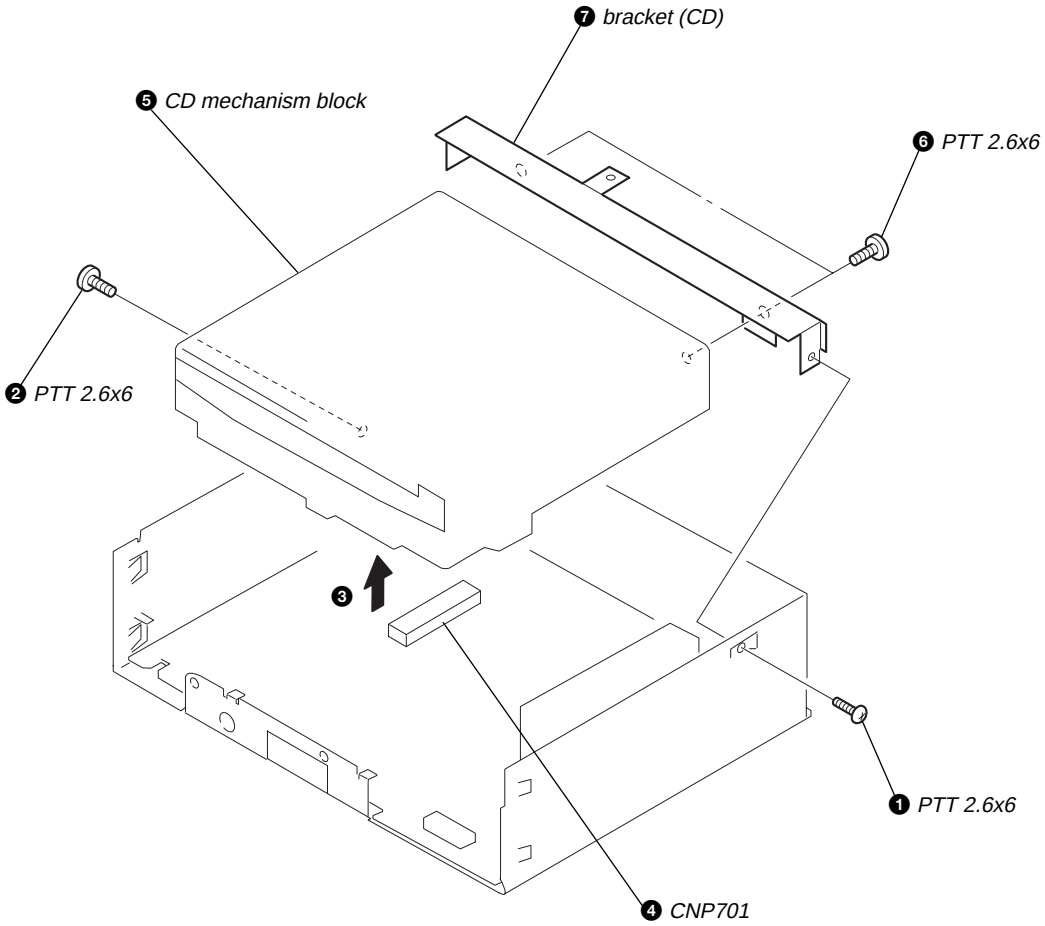

SET
2-1. SUB PANEL ASSY (CD) (Page 6)
2-2. CD MECHANISM BLOCK (Page 7)
2-3. MAIN BOARD (Page 7)
2-4. HEAT SINK (Page 8)
2-5. CHASSIS (T) SUB ASSY (Page 8)
2-6. LEVER SECTION IN SELF SW BOARD (Page 9)
2-7. SERVO BOARD (Page 9)
2-8. SHAFT ROLLER ASSY LOAD SW BOARD (Page 10)
2-9. FLOATING BLOCK ASSY (Page 10)
2-10. OPTICAL PICK-UP BLOCK (Page 11)

Note : Follow the disassembly procedure in the numerical order given.

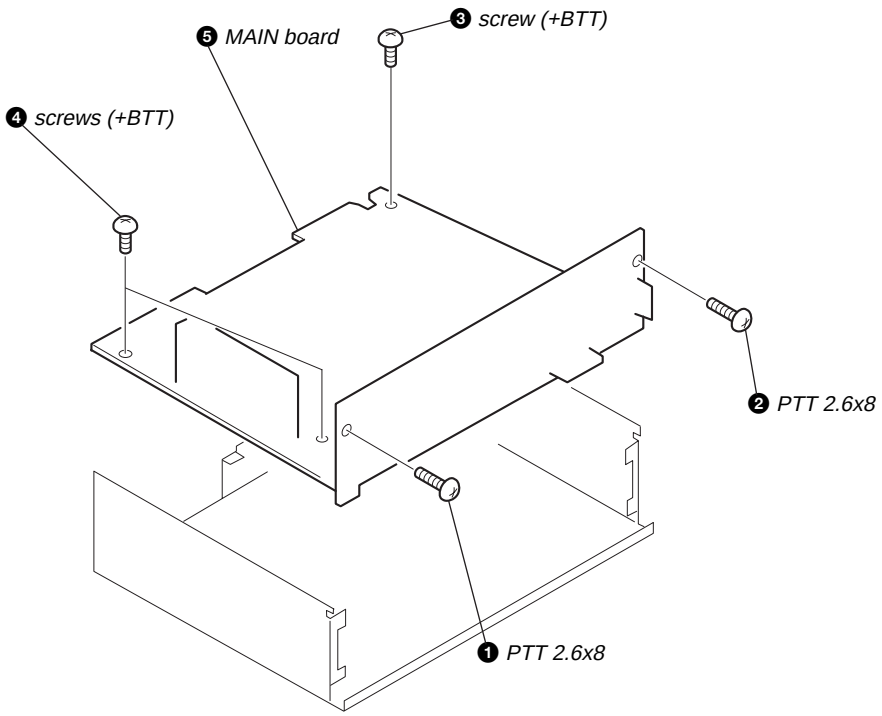
2-1. SUB PANEL ASSY (CD)



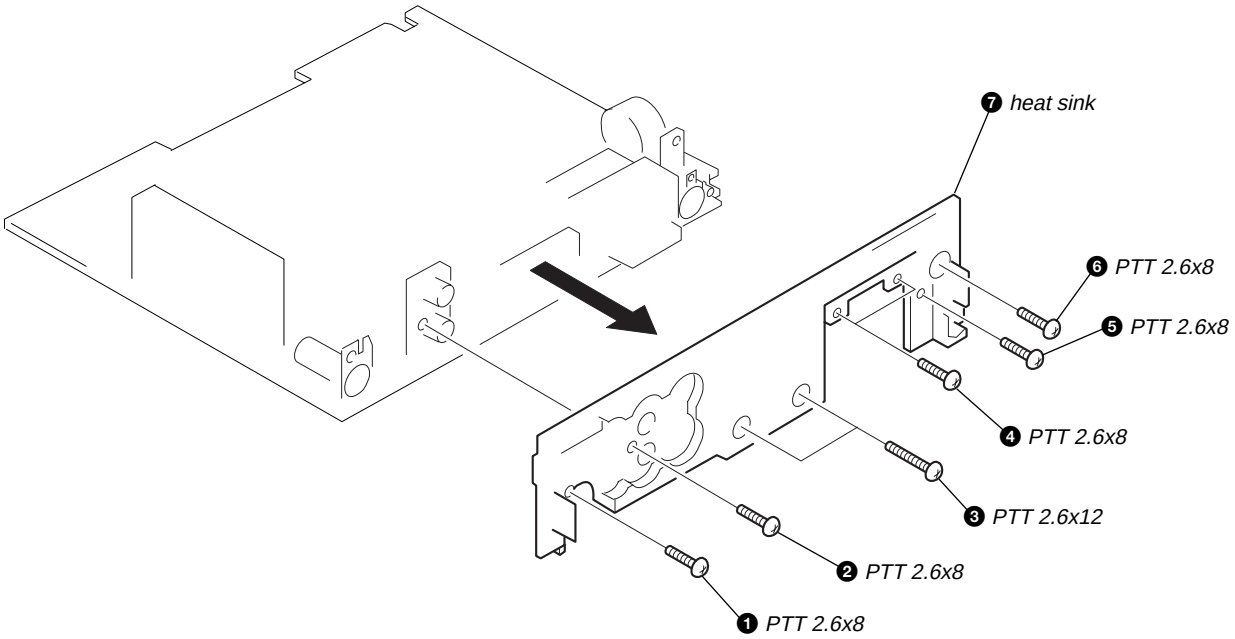
2-2. CD MECHANISM BLOCK



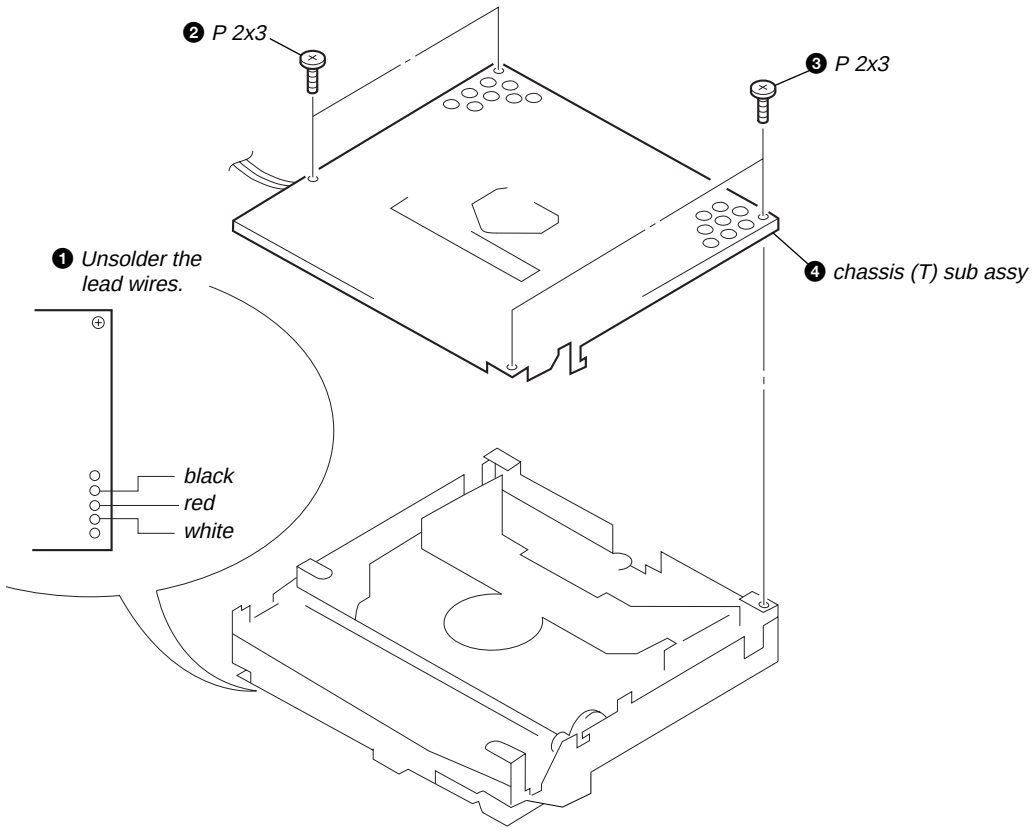
2-3. MAIN BOARD



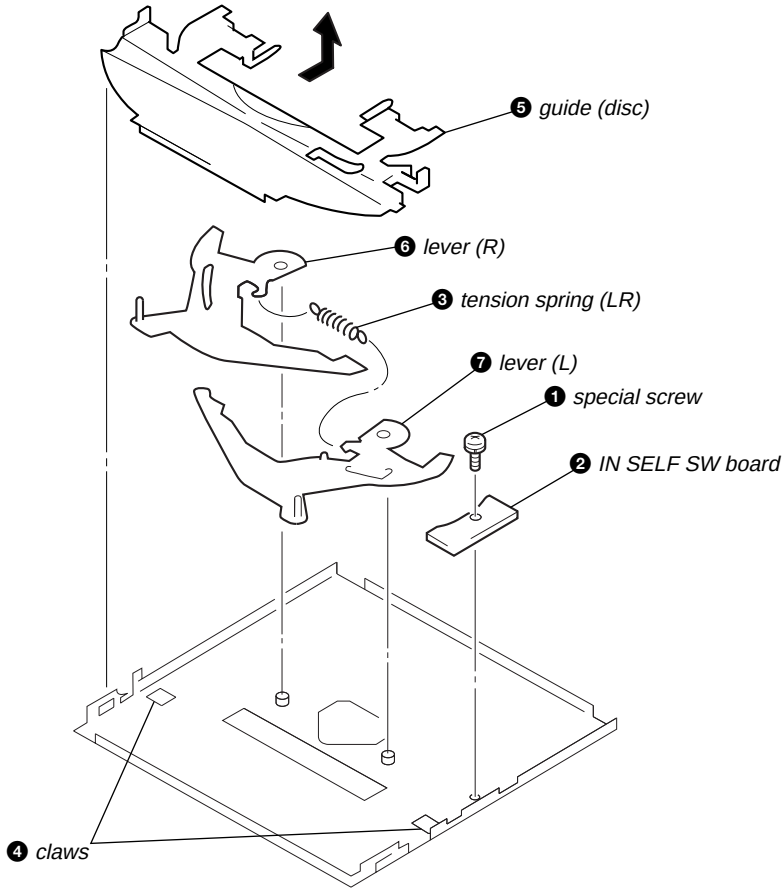
2-4. HEAT SINK



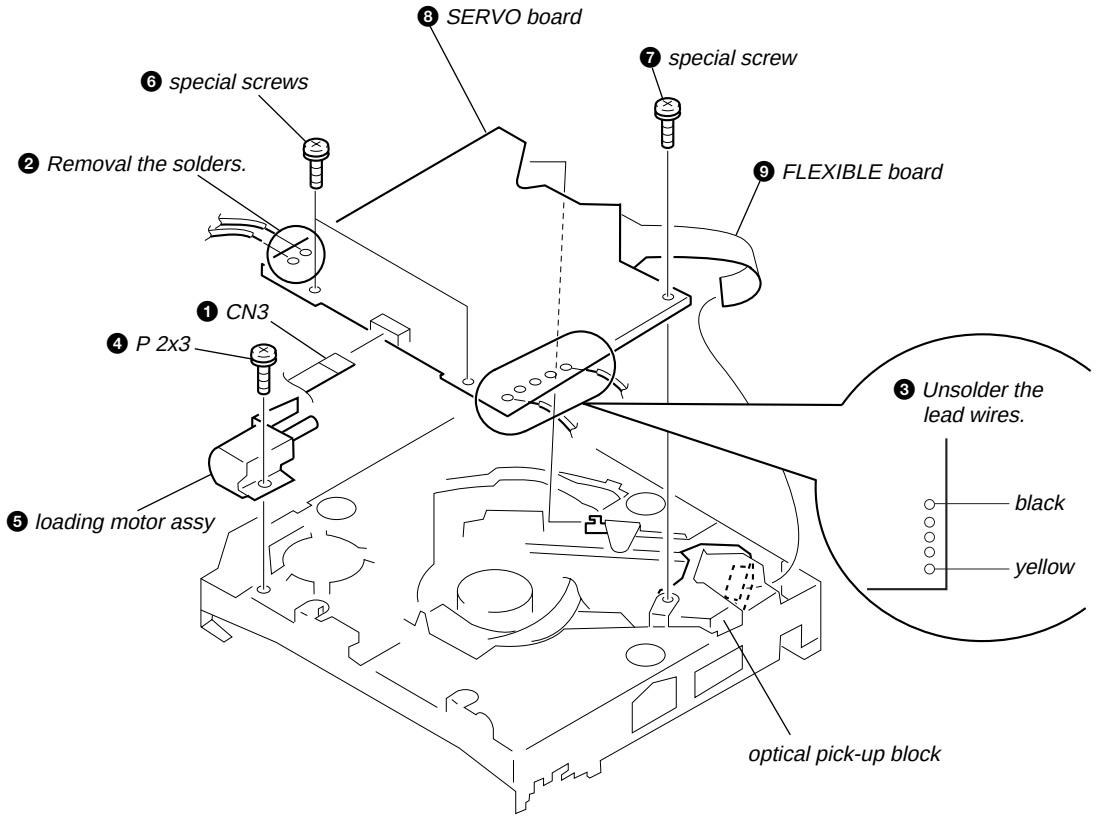
2-5. CHASSIS (T) SUB ASSY



2-6. LEVER SECTION, IN SELF SW BOARD



2-7. SERVO BOARD



2-8. SHAFT ROLLER ASSY, LOAD SW BOARD

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

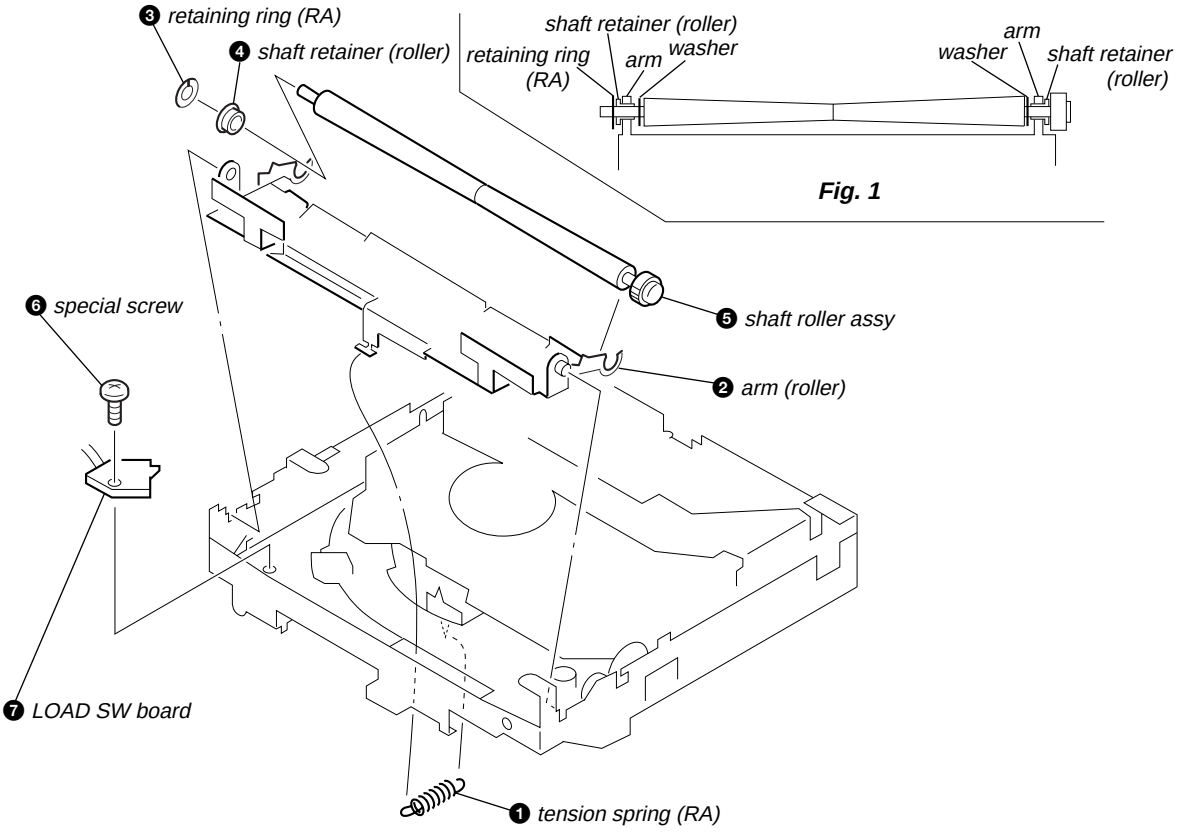
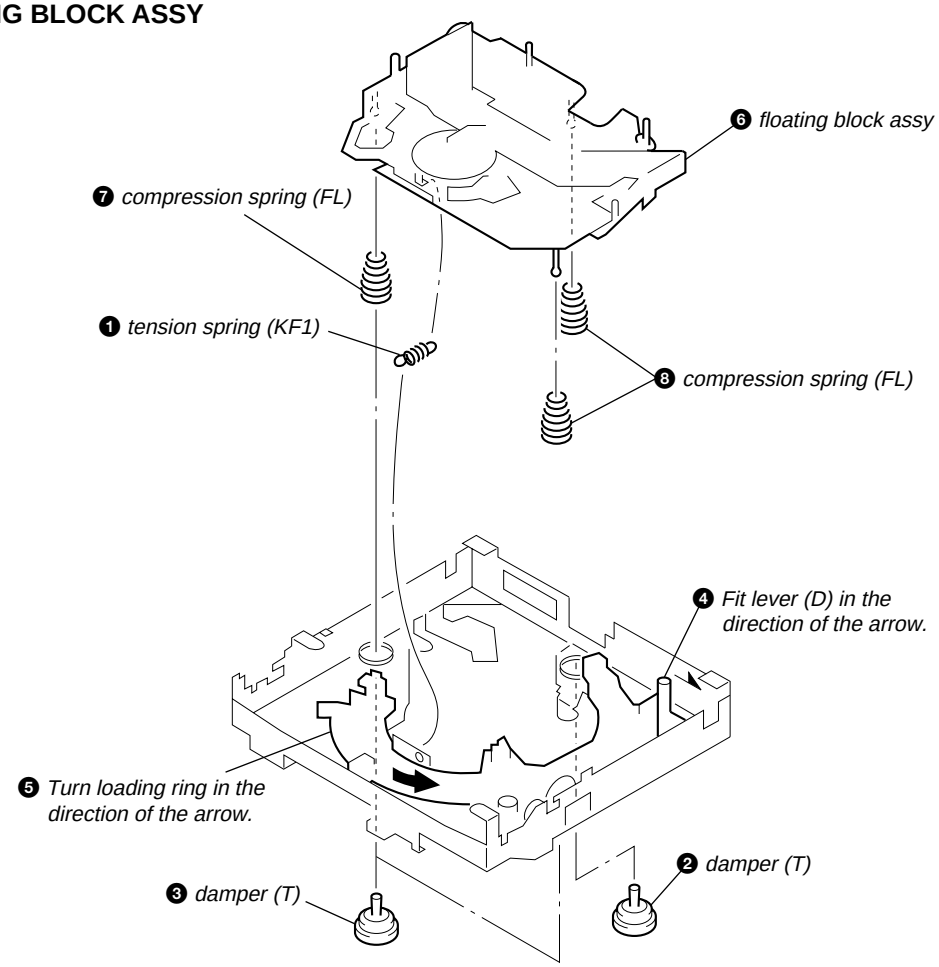
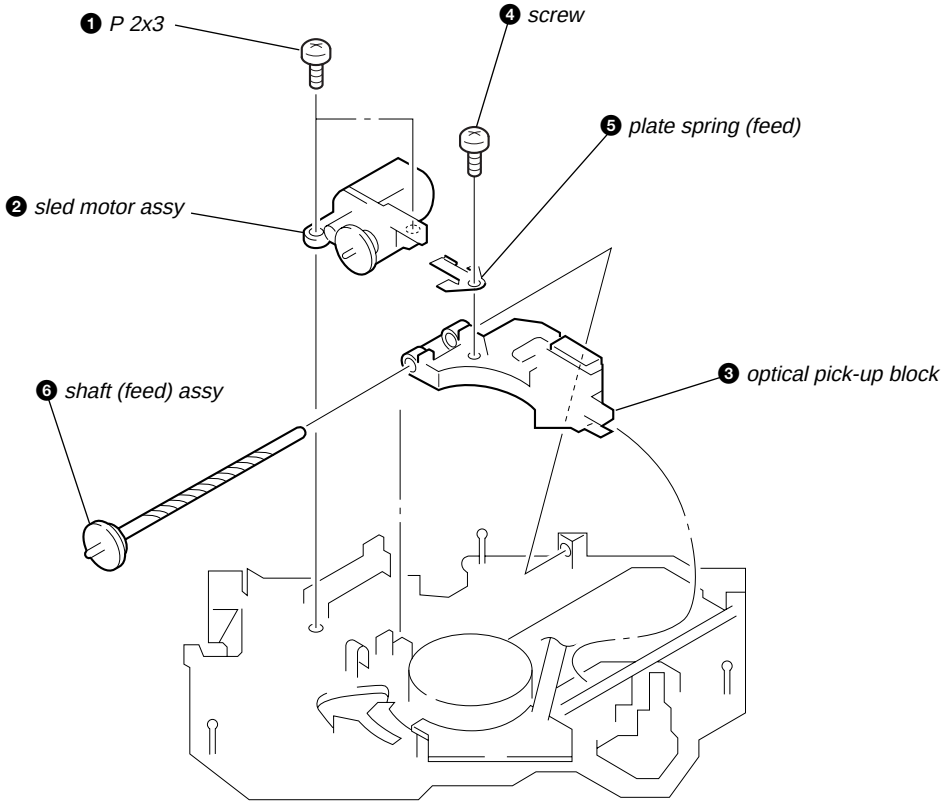


Fig. 1

2-9. FLOATING BLOCK ASSY


❻ floating block assy
❼ compression spring (FL)
❶ tension spring (KF1)
❽ compression spring (FL)
❹ Fit lever (D) in the direction of the arrow.
❺ Turn loading ring in the direction of the arrow.
❷ damper (T)
❸ damper (T)

2-10. OPTICAL PICK-UP BLOCK



SECTION 3
DIAGRAMS

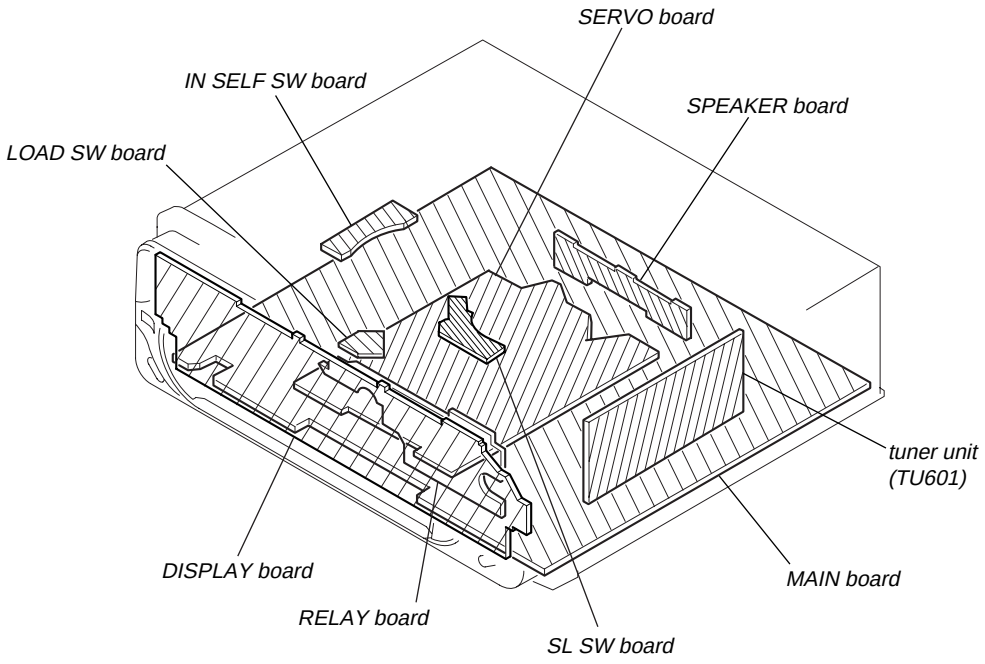
3-1. IC PIN DESCRIPTION

• IC801 µPD780076YGK-R24 (SYSTEM CONTROL) (MAIN Board)

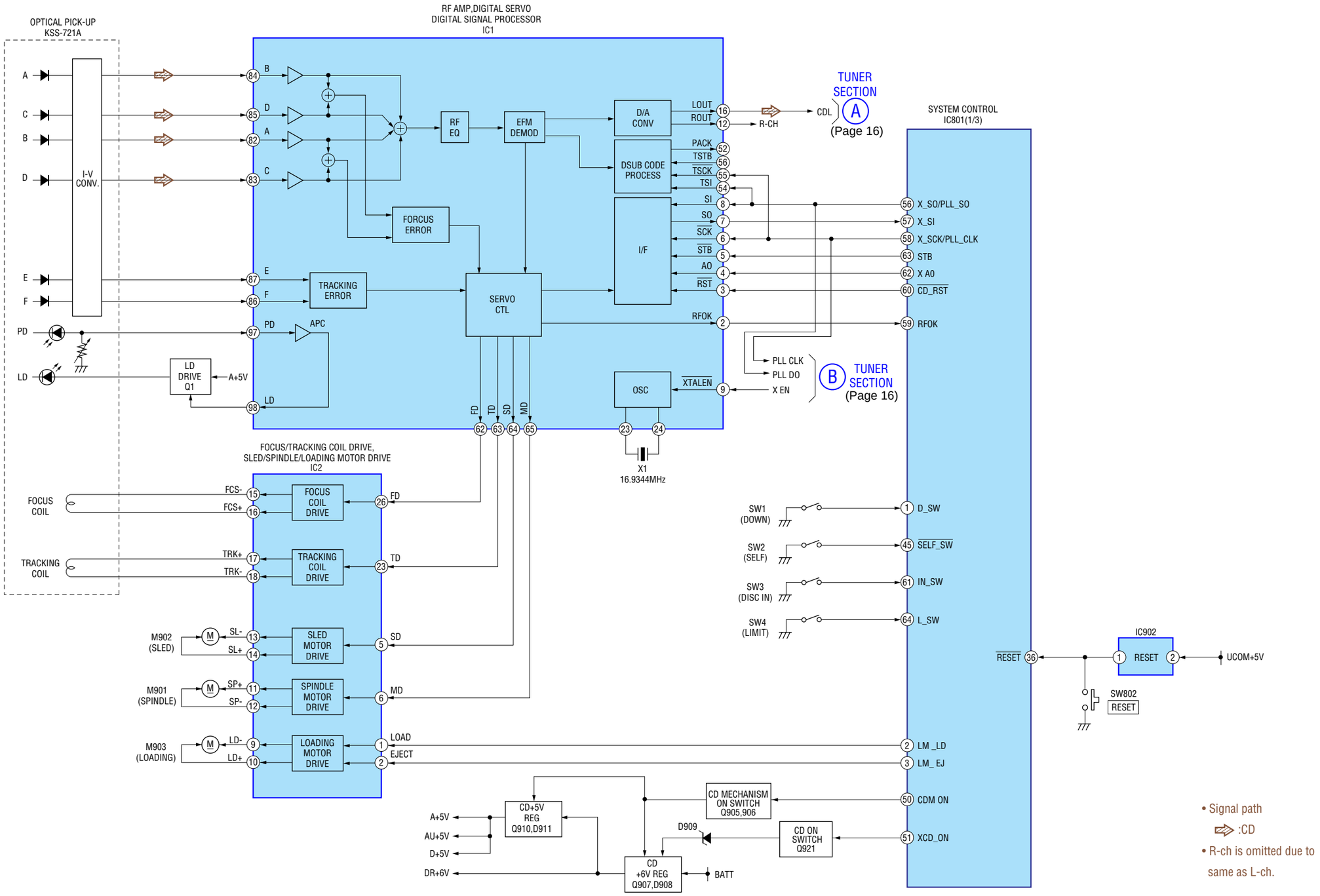
Pin No.	Pin Name	I/O	Pin Description
1	D SW	I	Down switch detection signal input "L": Down switch on
2	LM LD	O	Loading motor drive control signal output (Loading direction)
3	LM EJ	O	Loading motor drive control signal output (Eject direction)
4	ATT	O	Mute control signal output of audio signal line "H": mute on
5	$\overline{\text{A ATT}}$	O	Mute control signal output to power amp IC (IC101) "L": amp mute on
6	PLL DI	I	Serial data signal input to PLL IC (IC601)
7	$\overline{\text{VOL ATT}}$	O	Mute control signal output to Electric volume IC (IC401)
8	DOOR SW/IND	I	Door switch signal input Case of flipdown, sense to open condition of door "H": open
9	VSS0	—	Ground pin
10	VDD0	—	Power supply pin
11	PLL CE	O	Chip enable signal output to PLL IC (IC601)
12	BEEP	O	Beep signal output of key beep, caution alarm to power amp IC (IC101)
13	SDAO	O	IIC data line signal output (control to electric volume IC (IC401))
14	SCLO	O	IIC clock line signal output (control to electric volume IC (IC401))
15	LCD CE	O	Chip enable control signal output to LCD driver IC (IC901)
16	LCD DO	O	Serial data signal output to LCD driver IC (IC901)
17	LCD CLK	O	Serial clock signal output to LCD driver IC (IC901)
18	BUS SI	I	SONY bus data signal input from bus interface IC (IC802)
19	BUS SO	O	SONY bus data signal output to bus interface IC (IC802)
20	BUS CLK	I	SONY bus clock signal input
21	BUS CLK GEN	O	SONY bus clock signal output
22	AM ON	O	AM select signal output FM circuit power supply control output of tuner unit (TU601) "H": FM on
23	FM ON	O	FM select signal output FM circuit power supply control output of tuner unit (TU601) "H": FM on
24	VDD1	—	Power supply pin
25	AVSS	—	Ground pin
26	ST IND	I/O	Stereo signal input/monaural control signal output At forced monaural on: "L" output At forced monaural off: input mode, stereo on for "L" input
27	SHIFT/PH1	I	Rotary commander shift key signal input
28	S METER	I	S meter signal input from tuner unit (TU601)
29, 30	KEY0, KEY1	I	A/D key signal input Input of A/D key matrix and front panel attachment decision.
31	R COM	I	Rotary commander AD level signal input Sense to key voltage level of rotary commander
32	DST SEL	I	Destination select input from frequency select switch (SW803)
33	TEST	I	Test mode select signal input "L": test mode
34	AVREF	—	Analog reference voltage pin
35	AD ON	O	LCD INHIBIT signal output
36	$\overline{\text{RESET}}$	I	Reset signal input from reset IC (IC902) "H": reset
37	XT2	—	Connect to sub clock (32.768 kHz)
38	XT1	—	Connect to sub clock (32.768 kHz)
39	IC	—	At on board writer: 12 V power supply pin (usually ground pin)
40	X2	—	Connect to crystal oscillator (8.38 MHz)
41	X1	—	Connect to crystal oscillator (8.38 MHz)
42	VSS1	—	Ground pin
43	KEY ACK	I	Key acknowledge signal input
44	SIRCS	I	Wireless remote control signal input from remote control receiver IC (IC951)
45	$\overline{\text{SELF SW}}$	I	SELF switch detection signal input "L": SELF switch on
46	$\overline{\text{BU IN}}$	I	Backup power supply detection signal input
47	NOSE	I	Front panel attachment detection signal input from SW801 "L": panel on

Pin No.	Pin Name	I/O	Pin Description
48	ILL ON	O	Front panel illumination power supply control signal output "H": illumination on
49	A REMO	O	External amplifier remote control signal output
50	CDM ON	O	CD mechanism deck power supply control signal output "H": CD power on
51	XCD ON	O	CD DSP power supply control signal output "H": CD power on
52	$\overline{\text{ACC IN}}$	I	Accessory power supply detection signal input "L": accessory on
53	BUS ON	O	SONY bus on signal output to bus interface IC (IC802)
54	BUS RST	O	SONY bus reset signal output to bus interface IC (IC802)
55	PW ON	O	System power supply control signal output
56	X SO PLL SO	O	CD and PLL serial data signal output
57	X SI	I	CD serial data signal input
58	X SCK PLL SCK	O	CD and PLL serial data signal output
59	RF OK	I	CD RF OK signal input
60	$\overline{\text{CD RST}}$	O	CD reset control signal output
61	IN SW/PH2	I	DISC IN switch detection signal input "L": DISC IN switch on
62	X AO	O	Parameter/command select signal output
63	STB	O	CD strobe signal output
64	L SW	I	LIMIT switch detection signal input "L": LIMIT switch on

3-2. CIRCUIT BOARDS LOCATION

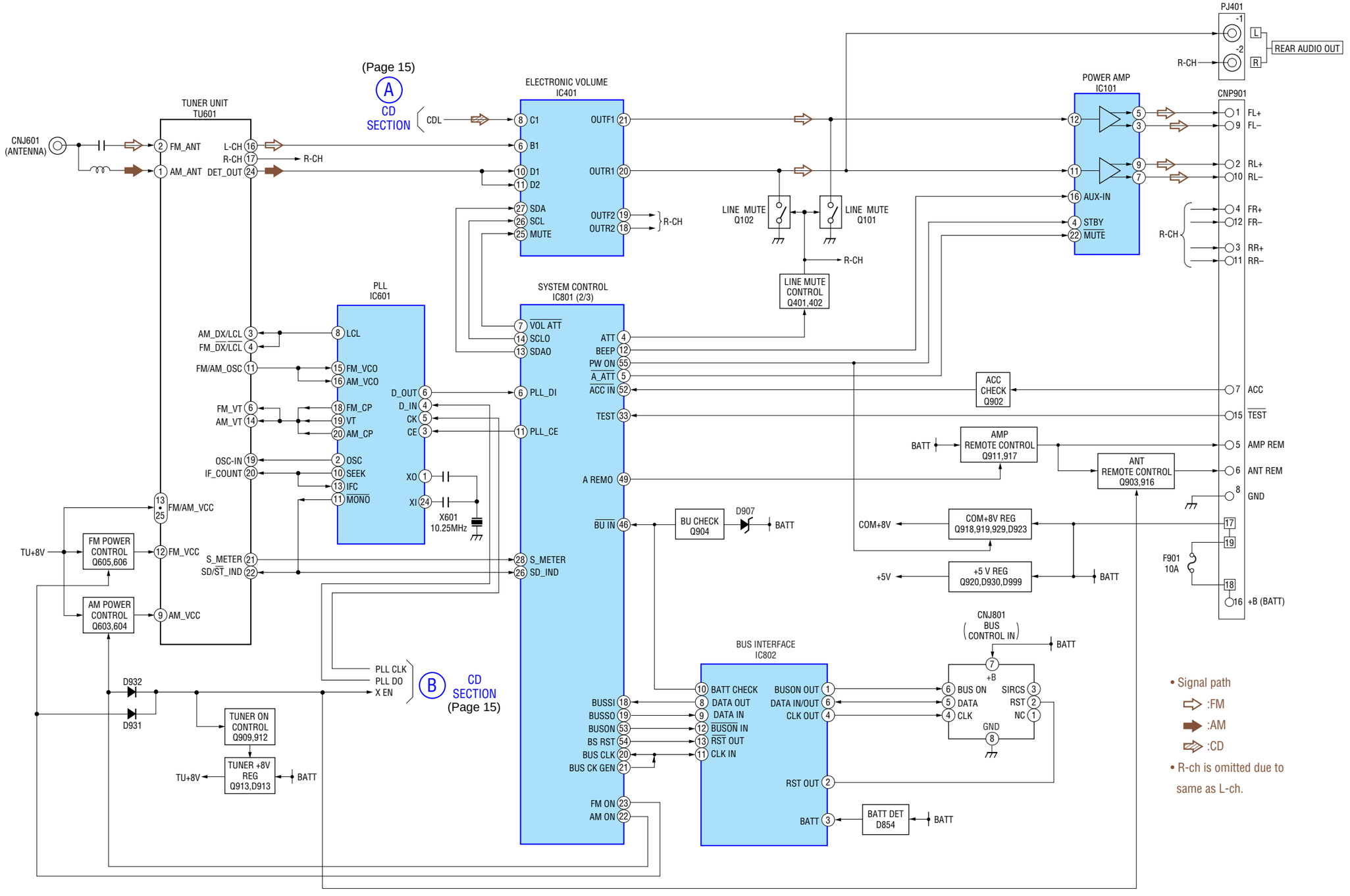


3-3. BLOCK DIAGRAM — CD SECTION —

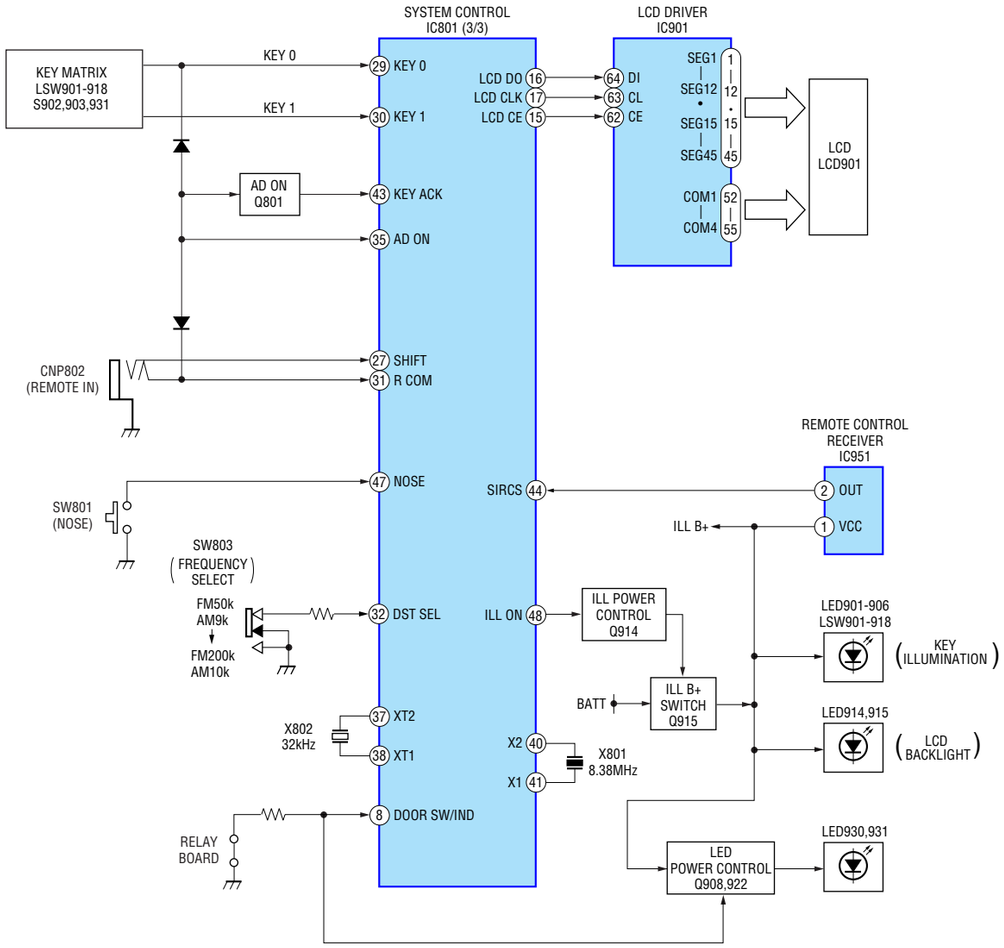


- Signal path
  ⇨ :CD
- R-ch is omitted due to same as L-ch.

3-4. BLOCK DIAGRAM — TUNER SECTION —



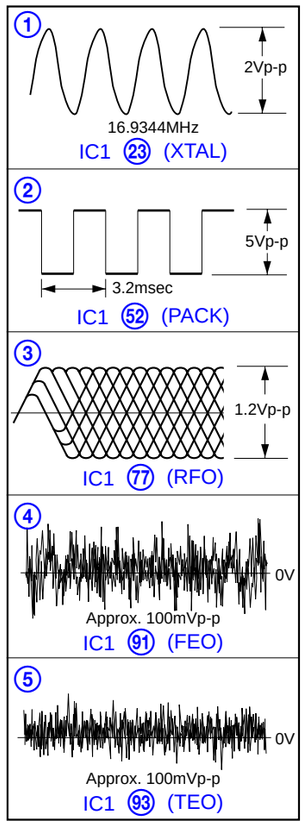
3-5. BLOCK DIAGRAM — DISPLAY SECTION —



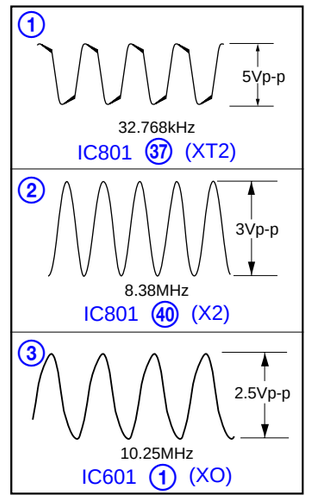
• **Waveforms**

— Servo Board —

(MODE: CD PLAY)



— Main Board —



3-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION — • Refer to page 14 for Circuit Boards Location.

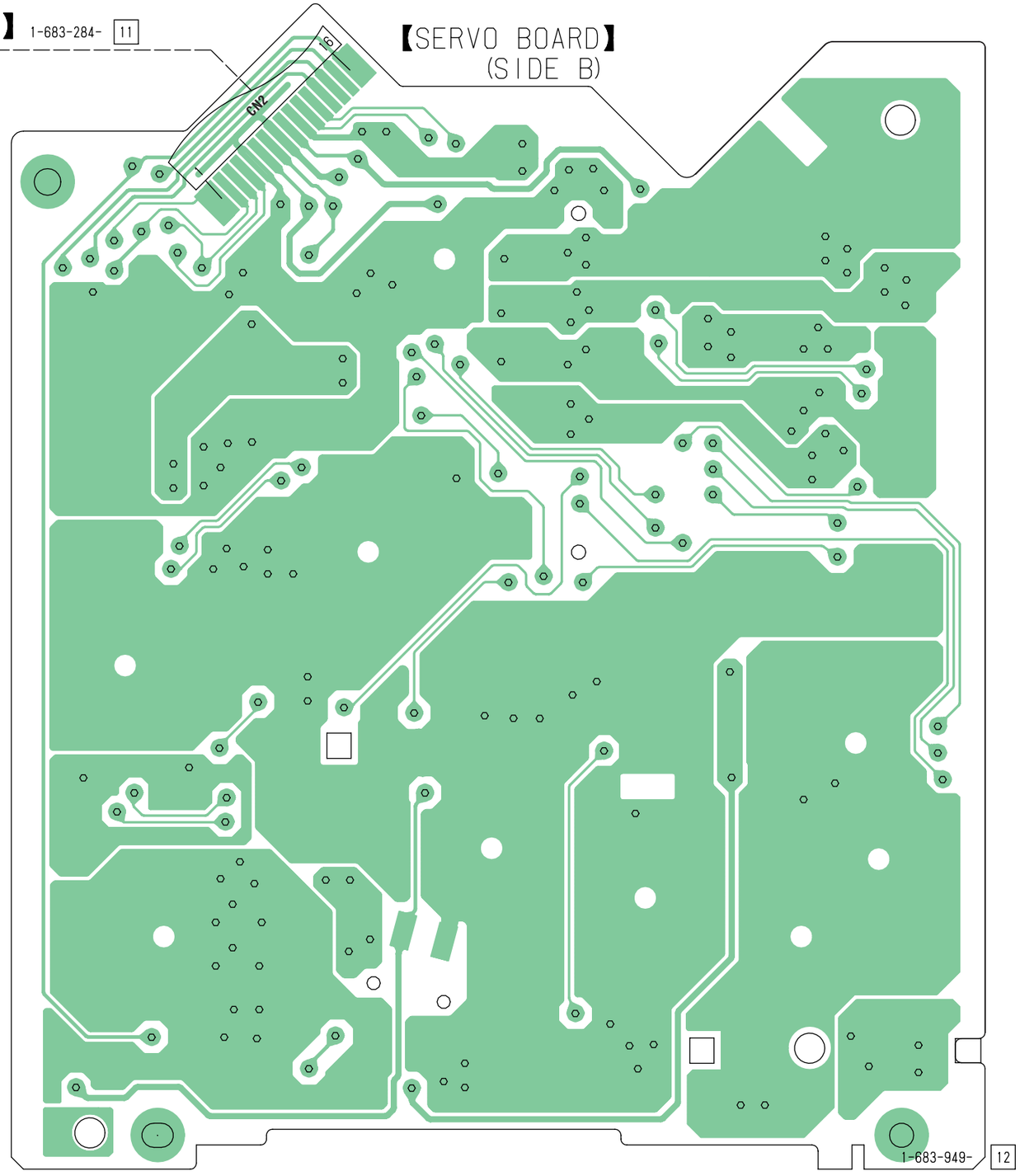
14 13 12 11 10 9 8 7 6 5 4 3 2 1

A B C D E F G H I J

OPTICAL PICK-UP KSS-721A

【PICK-UP FLEXIBLE BOARD】 1-683-284- 11

【SERVO BOARD】
(SIDE B)



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇛ : CD

for printed wiring boards:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▬ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

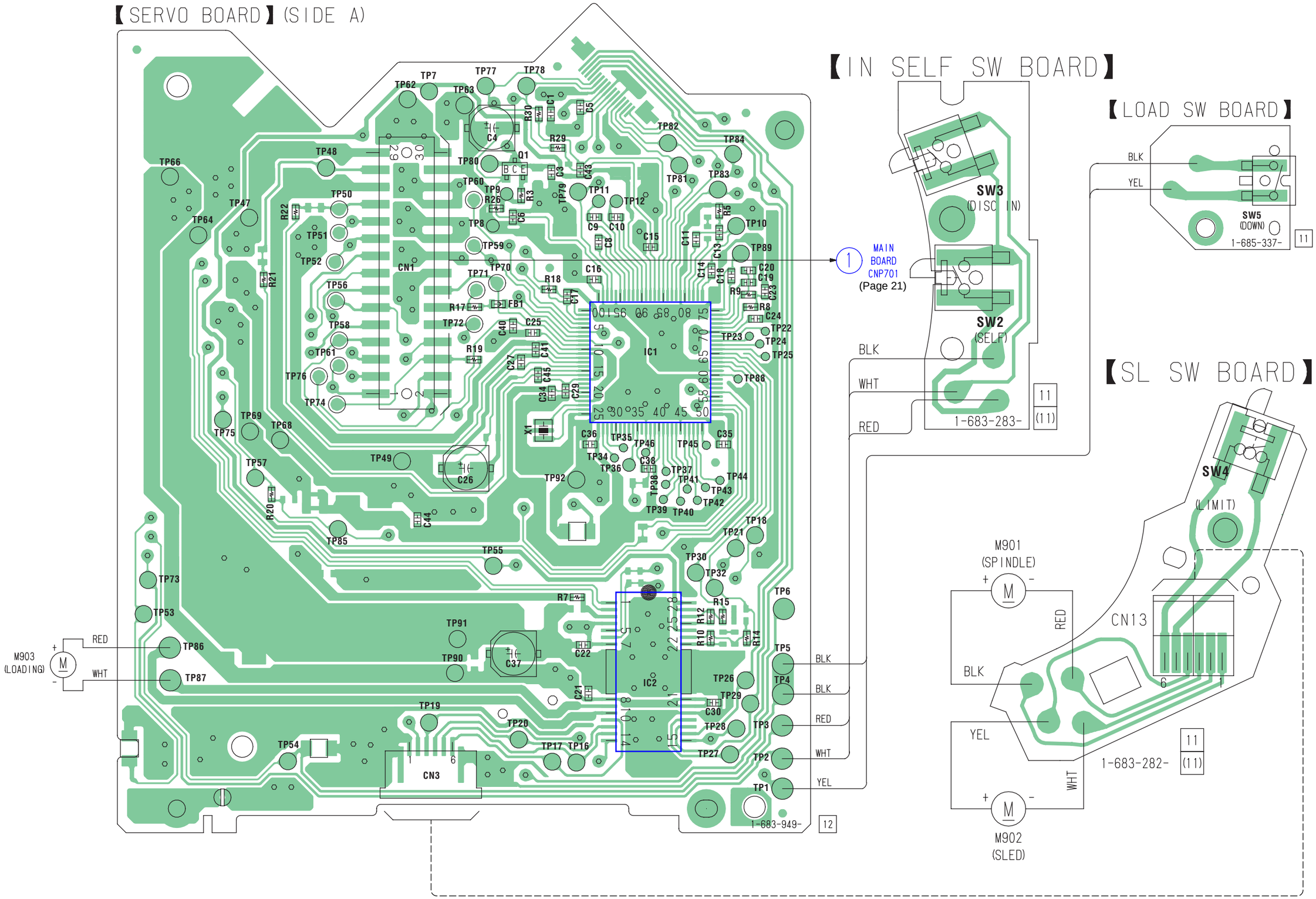
Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

【SERVO BOARD】(SIDE A)

【IN SELF SW BOARD】

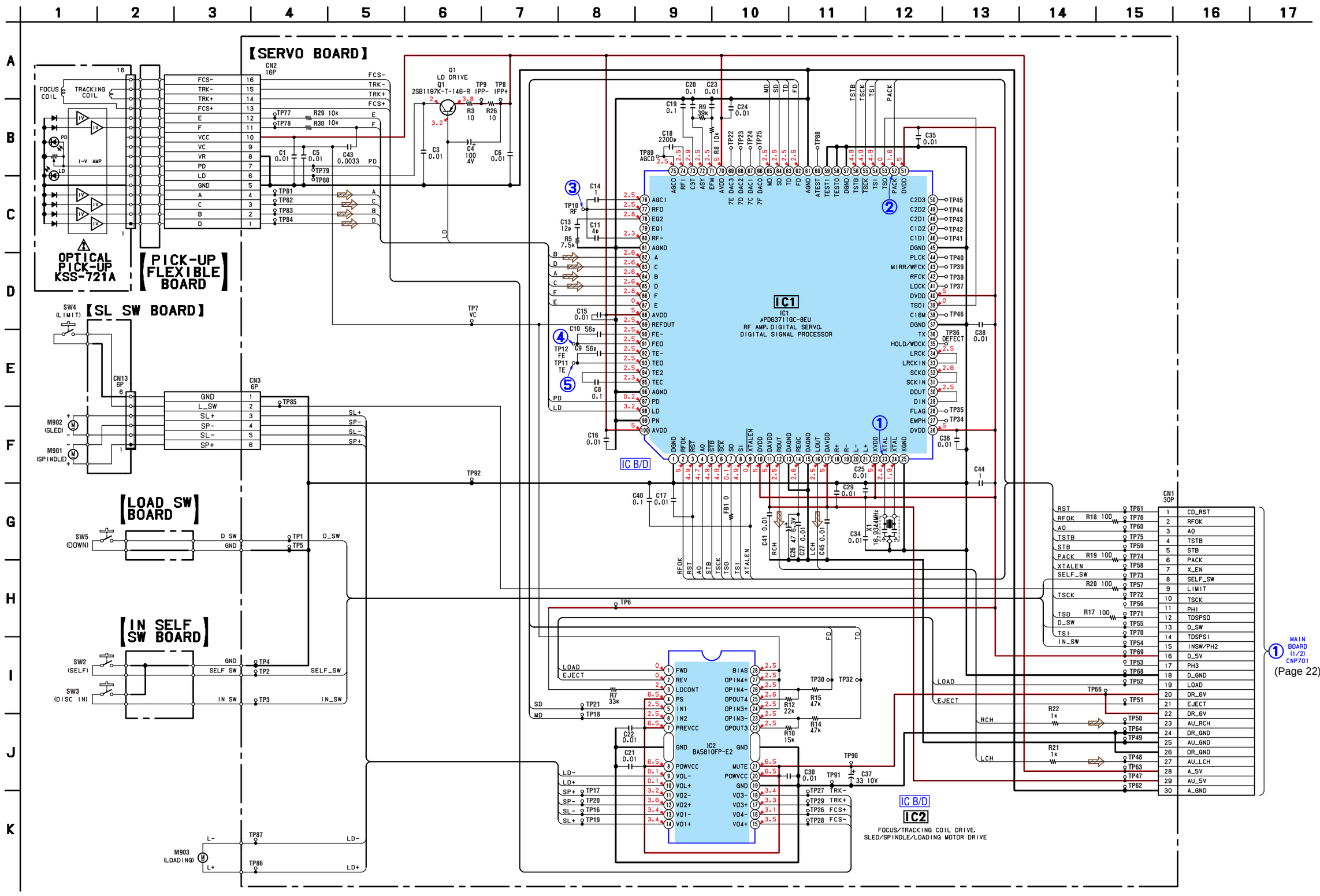
【LOAD SW BOARD】

【SL SW BOARD】



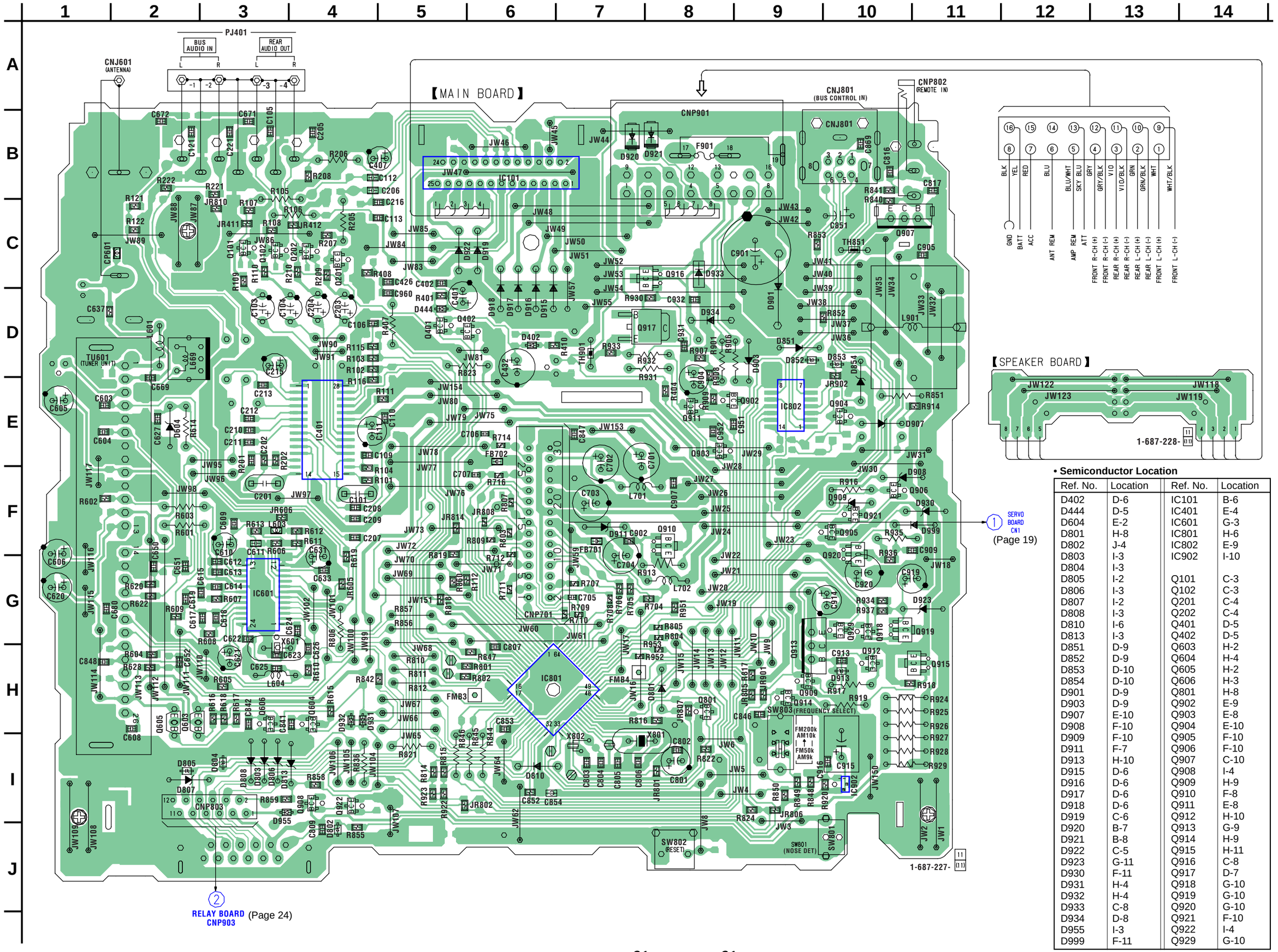
3-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION —

• Refer to page 17 for Waveforms.
• Refer to page 27 for IC Block Diagrams.



Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : CD PLAY

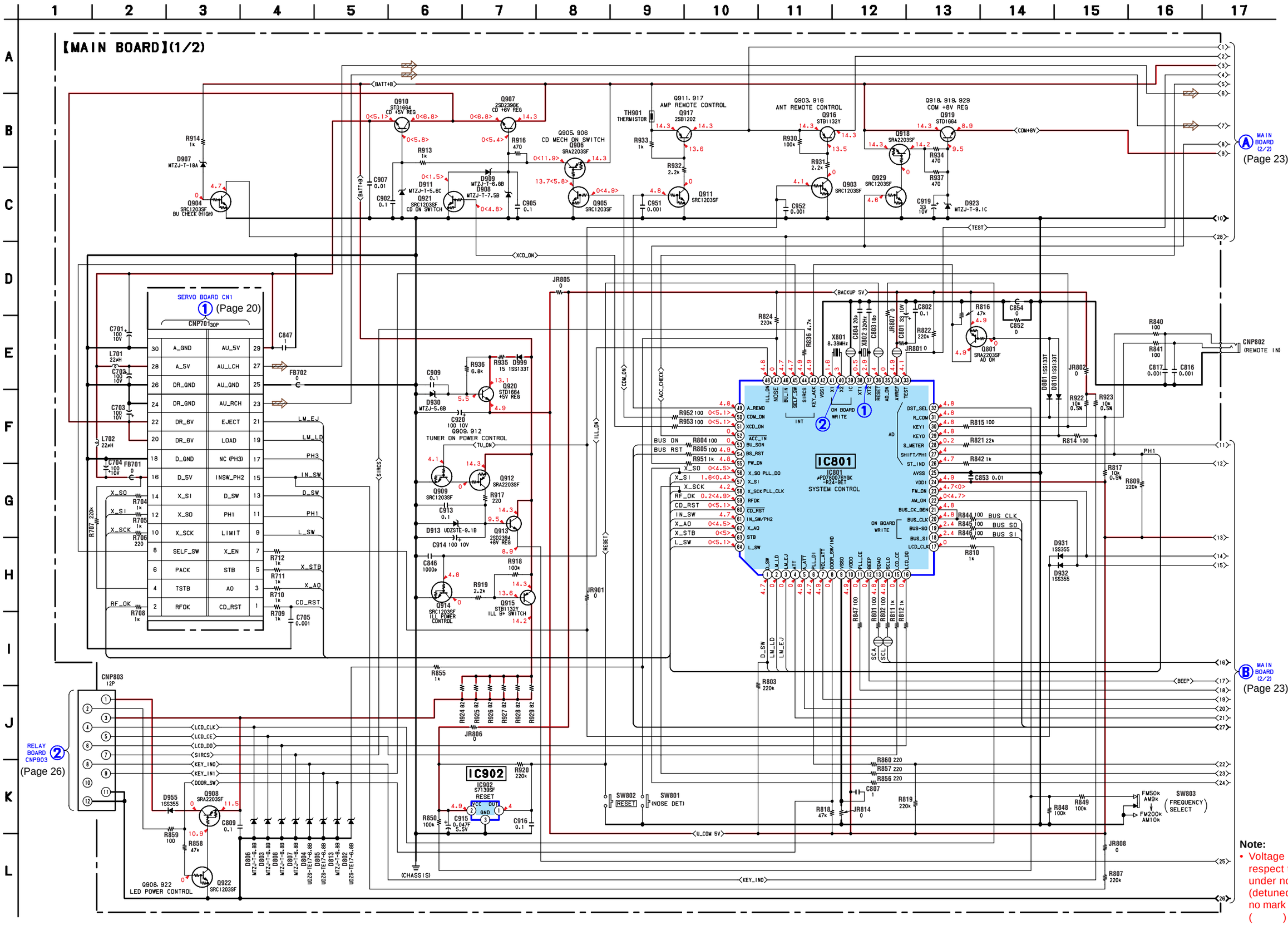
3-8. PRINTED WIRING BOARDS — MAIN SECTION — • Refer to page 14 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D402	D-6	IC101	B-6
D444	D-5	IC401	E-4
D604	E-2	IC601	G-3
D801	H-8	IC801	H-6
D802	J-4	IC802	E-9
D803	I-3	IC902	I-10
D804	I-3		
D805	I-2	Q101	C-3
D806	I-3	Q102	C-3
D807	I-2	Q201	C-4
D808	I-3	Q202	C-4
D810	I-6	Q401	D-5
D813	I-3	Q402	D-5
D851	D-9	Q603	H-2
D852	D-9	Q604	H-4
D853	D-10	Q605	H-2
D854	D-10	Q606	H-3
D901	D-9	Q801	H-8
D903	D-9	Q902	E-9
D907	E-10	Q903	E-8
D908	F-10	Q904	E-10
D909	F-10	Q905	F-10
D911	F-7	Q906	F-10
D913	H-10	Q907	C-10
D915	D-6	Q908	I-4
D916	D-6	Q909	H-9
D917	D-6	Q910	F-8
D918	D-6	Q911	E-8
D919	C-6	Q912	H-10
D920	B-7	Q913	G-9
D921	B-8	Q914	H-9
D922	C-5	Q915	H-11
D923	G-11	Q916	C-8
D930	F-11	Q917	D-7
D931	H-4	Q918	G-10
D932	H-4	Q919	G-10
D933	C-8	Q920	G-10
D934	D-8	Q921	F-10
D955	I-3	Q922	I-4
D999	F-11	Q929	G-10

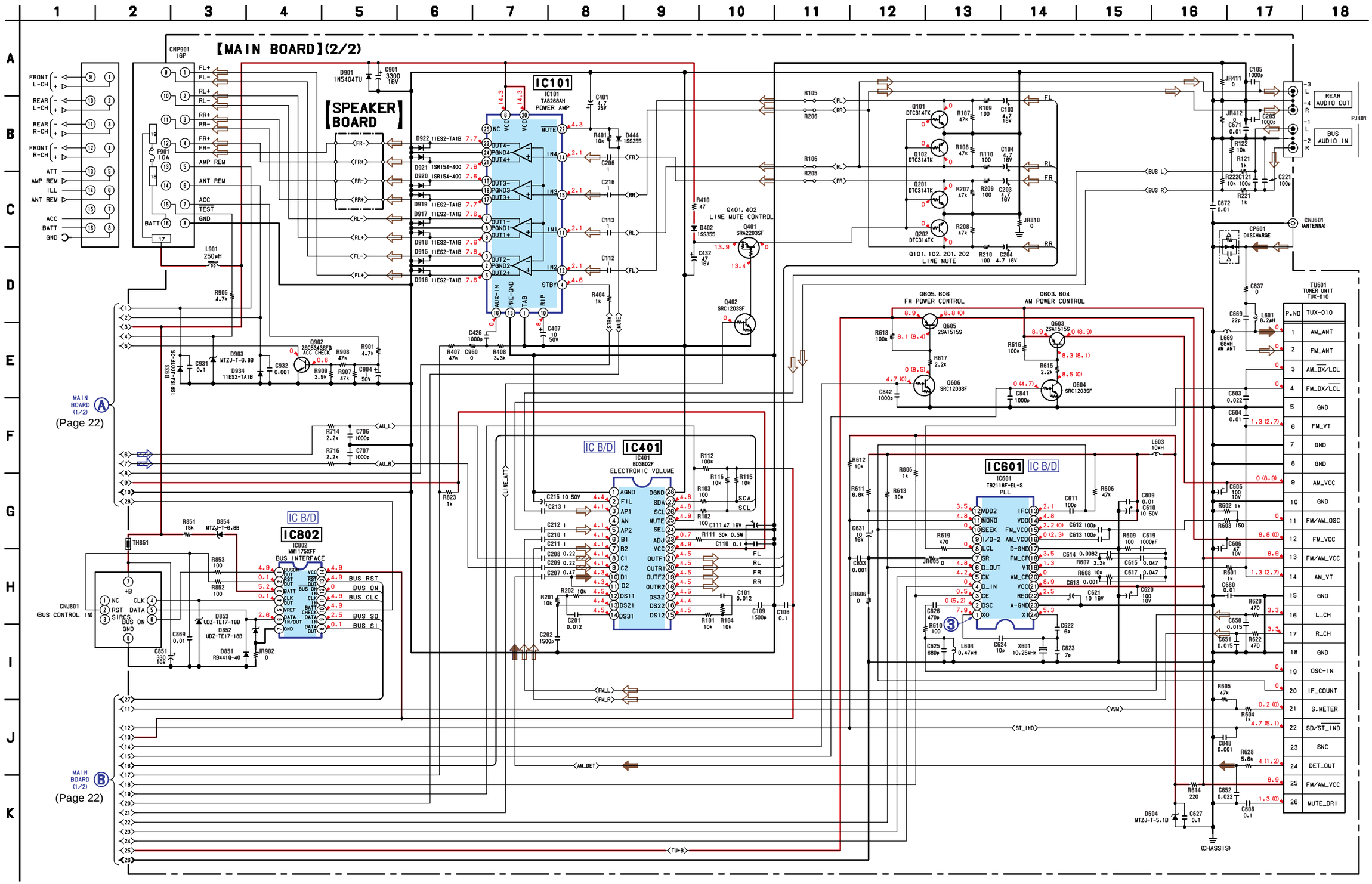
3-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 17 for Waveforms.



• Refer to page 17 for Waveform.

3-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) —

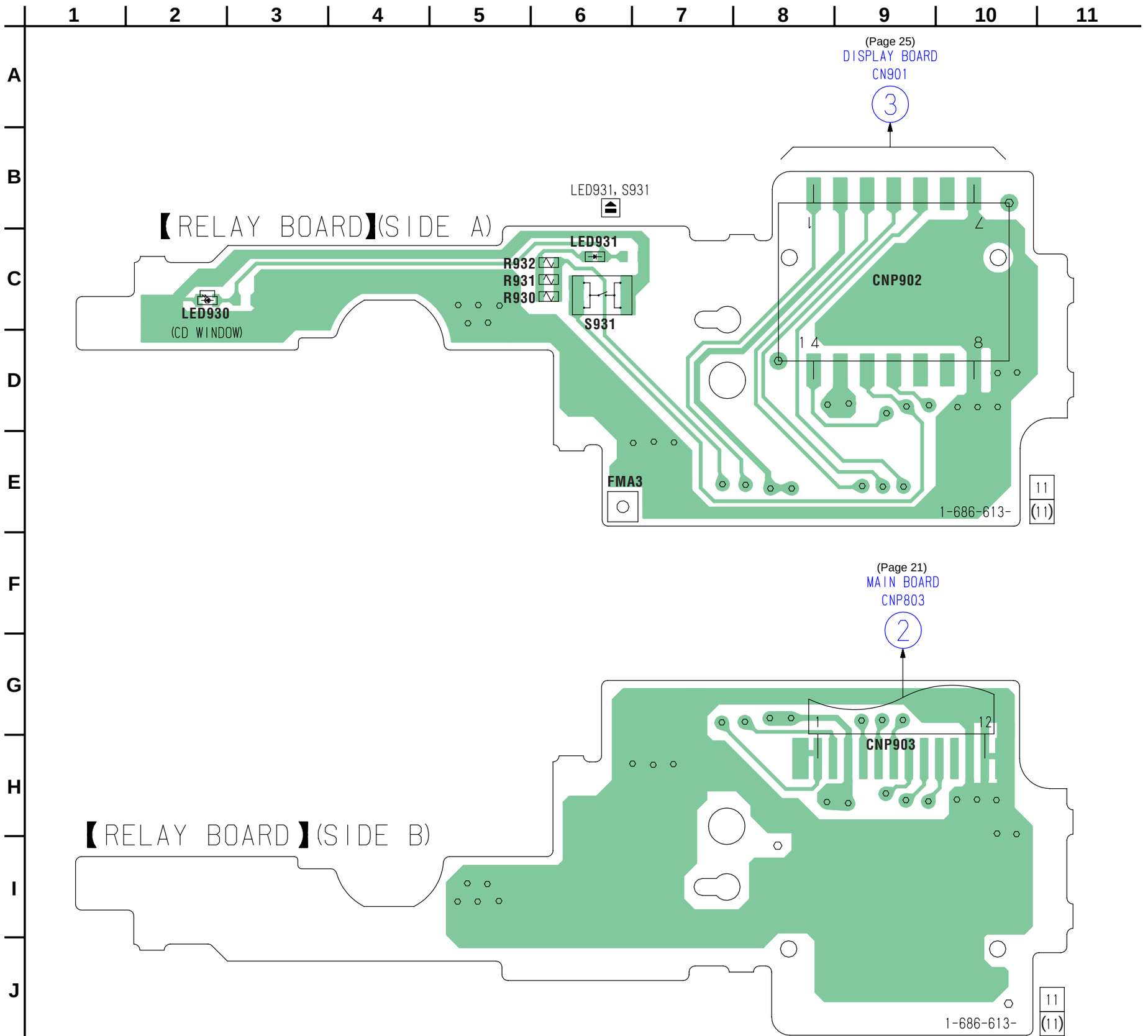
• Refer to page 28 for IC Block Diagrams.



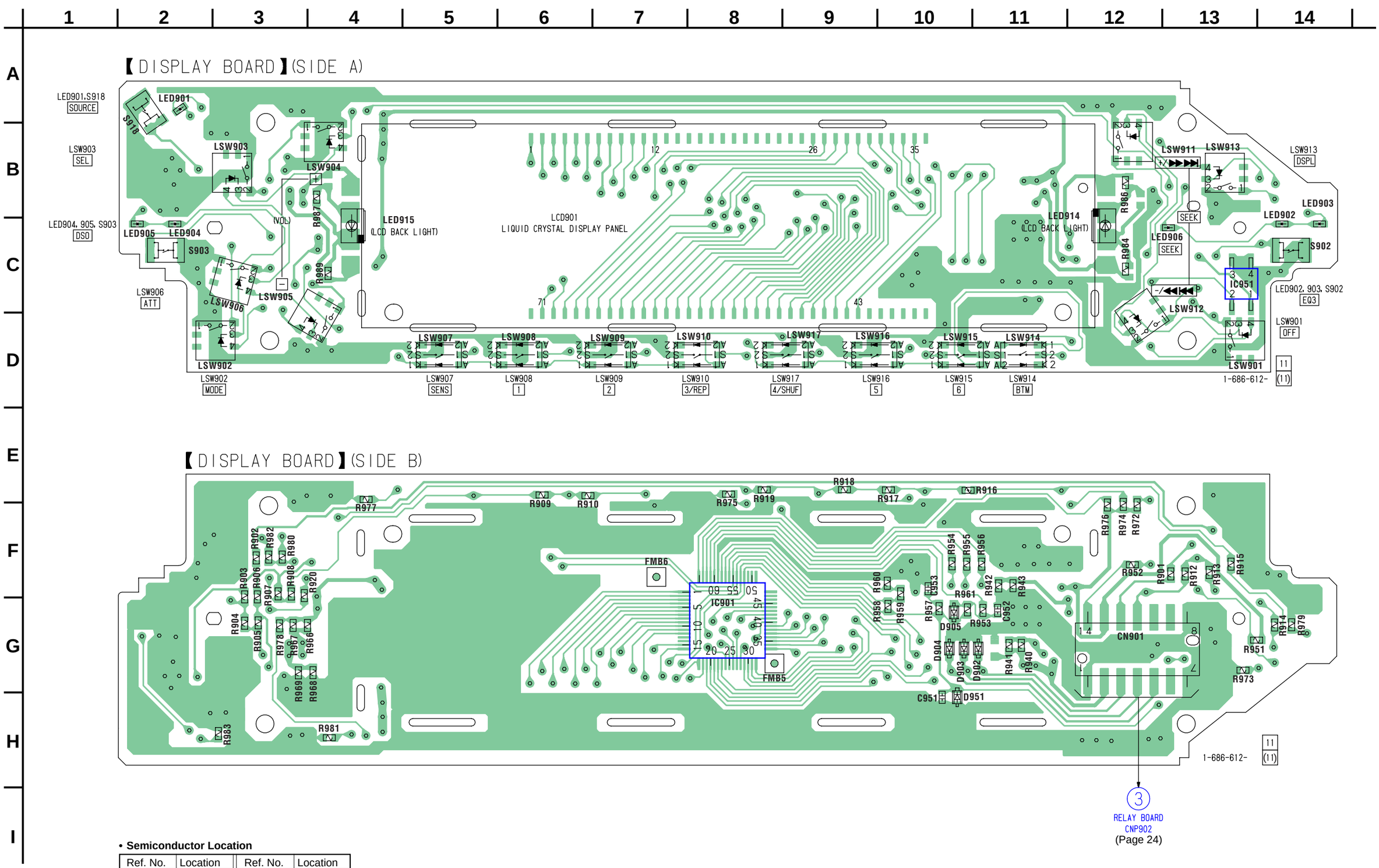
Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : AM
  < > : CD PLAY

3-11. PRINTED WIRING BOARD — RELAY SECTION — • Refer to page 14 for Circuit Boards Location.



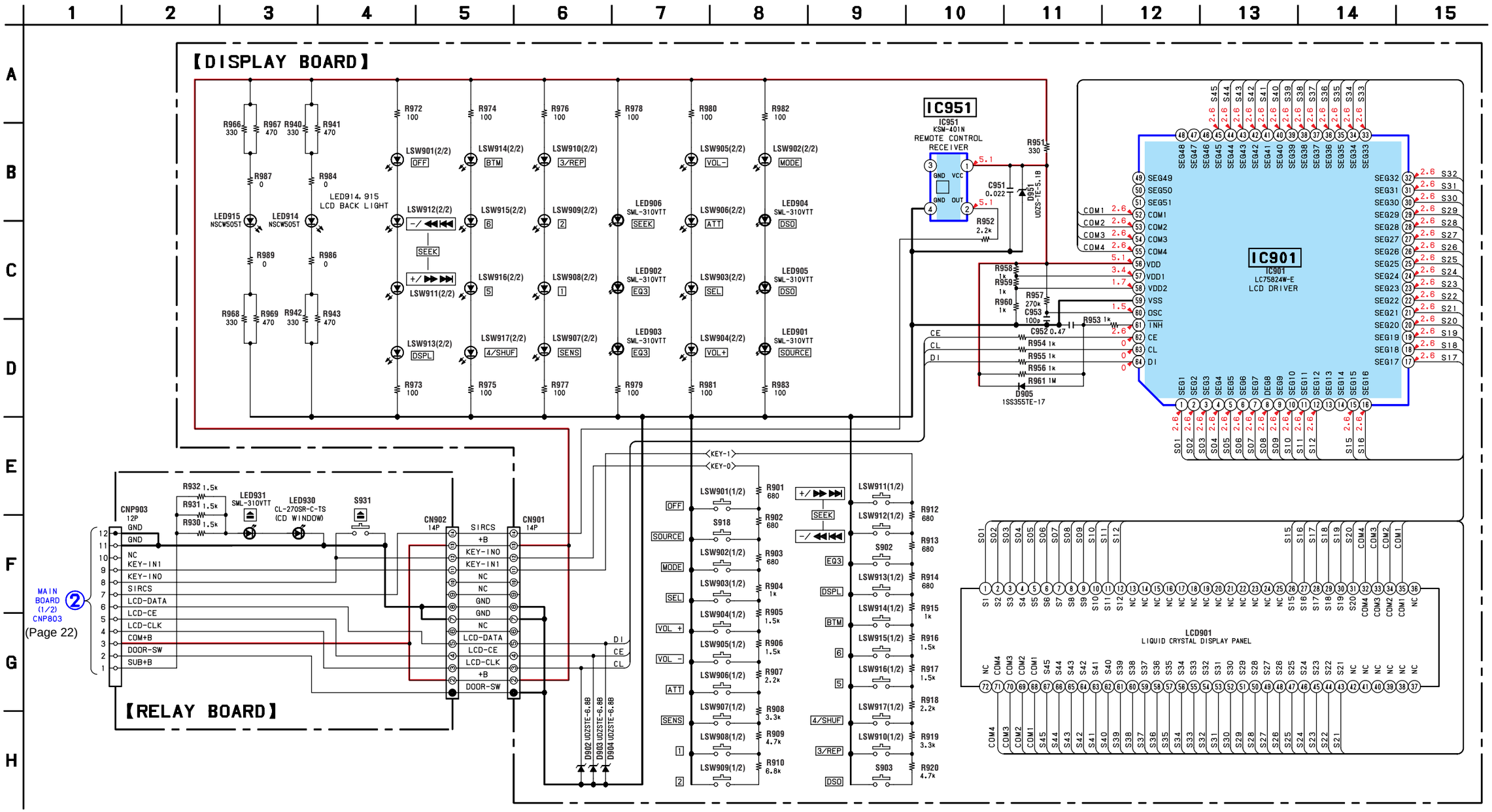
3-12. PRINTED WIRING BOARD — DISPLAY SECTION — • Refer to page 14 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D902	G-11	LED901	A-2
D903	G-10	LED902	C-14
D904	G-10	LED903	C-14
D905	G-10	LED904	C-2
D951	H-10	LED905	C-2
		LED906	C-13
IC901	G-8	LED914	C-12
IC951	C-13	LED915	C-4

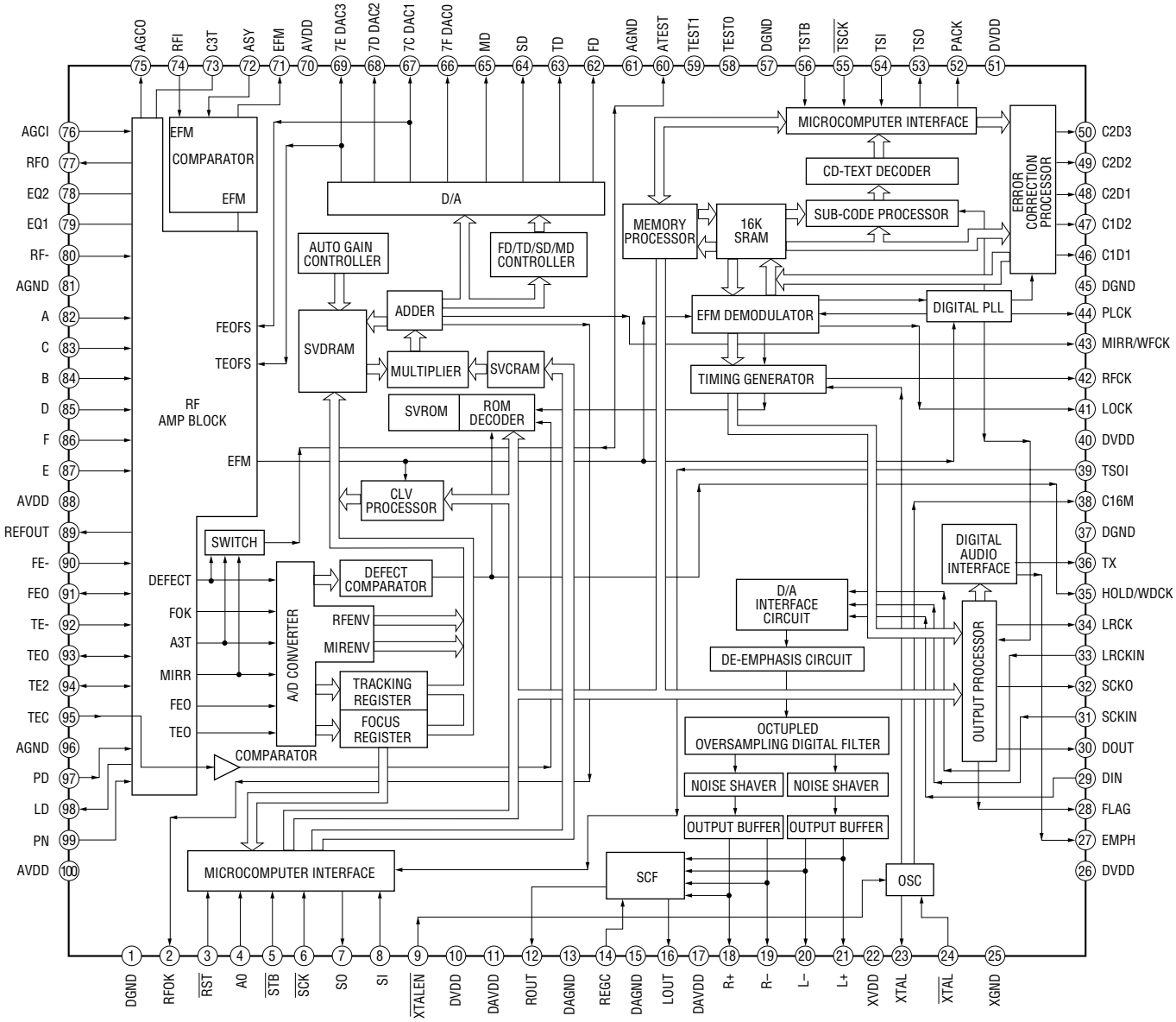
3-13. SCHEMATIC DIAGRAM — DISPLAY, RELAY SECTION —



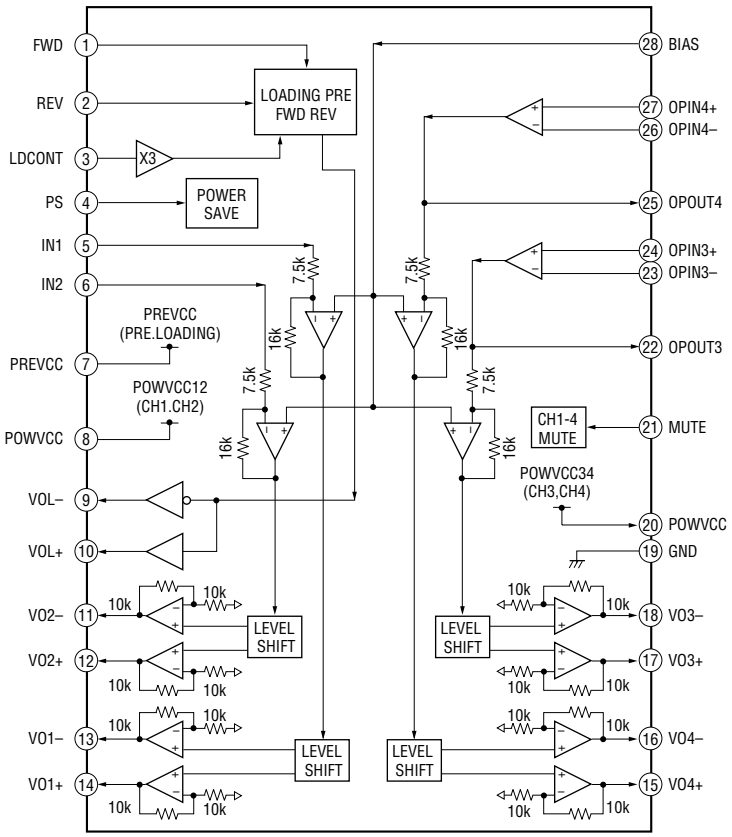
Note:
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

3-14. IC BLOCK DIAGRAMS

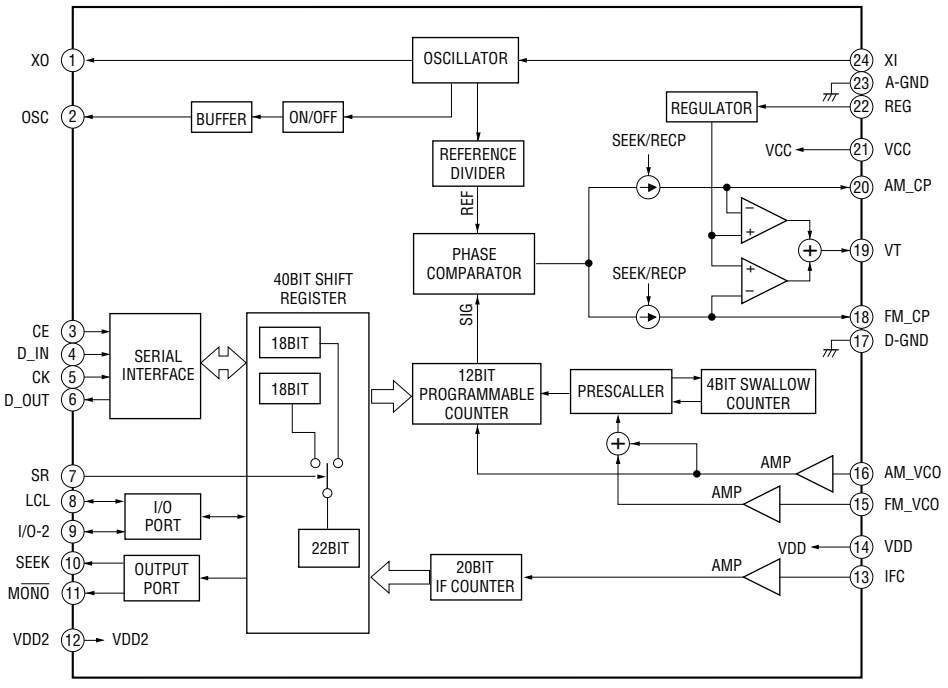
IC1 µPD63711GC-8EU (SERVO Board)



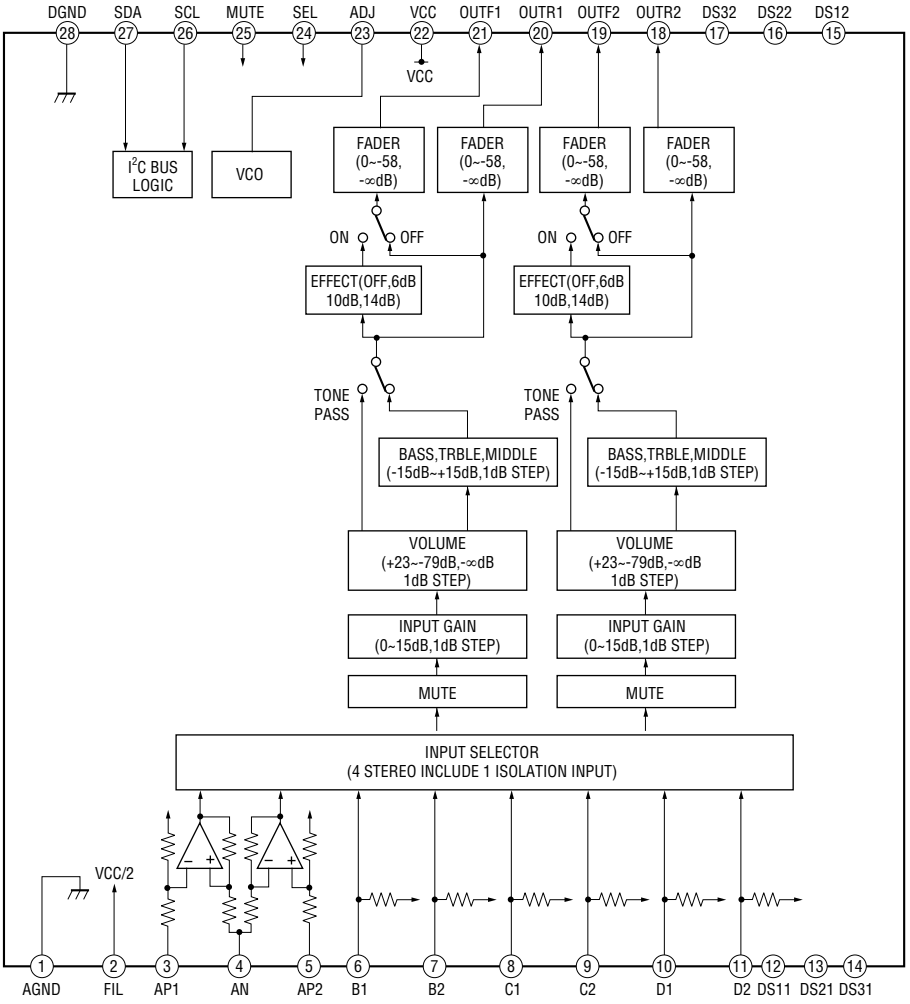
IC2 BA5810FP-E2 (SERVO Board)



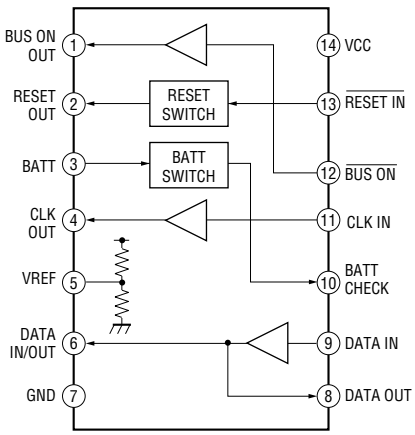
IC601 TB2118F-EL-S (MAIN Board)



IC401 BD3802F (MAIN Board)


DGND SDA SCL MUTE SEL ADJ VCC OUTF1 OUTR1 OUTF2 OUTR2 DS32 DS22 DS12
28 27 26 25 24 23 22 21 20 19 18 17 16 15
VCC
I2C BUS LOGIC
VCO
FADER (0~-58, -∞dB)
FADER (0~-58, -∞dB)
FADER (0~-58, -∞dB)
FADER (0~-58, -∞dB)
ON OFF
ON OFF
EFFECT(OFF,6dB 10dB,14dB)
EFFECT(OFF,6dB 10dB,14dB)
TONE PASS
TONE PASS
BASS,TRBLE,MIDDLE (-15dB~+15dB,1dB STEP)
BASS,TRBLE,MIDDLE (-15dB~+15dB,1dB STEP)
VOLUME (+23~-79dB,-∞dB 1dB STEP)
VOLUME (+23~-79dB,-∞dB 1dB STEP)
INPUT GAIN (0~15dB,1dB STEP)
INPUT GAIN (0~15dB,1dB STEP)
MUTE
MUTE
INPUT SELECTOR (4 STEREO INCLUDE 1 ISOLATION INPUT)
VCC/2
1 2 3 4 5 6 7 8 9 10 11 12 13 14
AGND FIL AP1 AN AP2 B1 B2 C1 C2 D1 D2 DS11 DS21 DS31

IC802 MM1175XFF (MAIN Board)

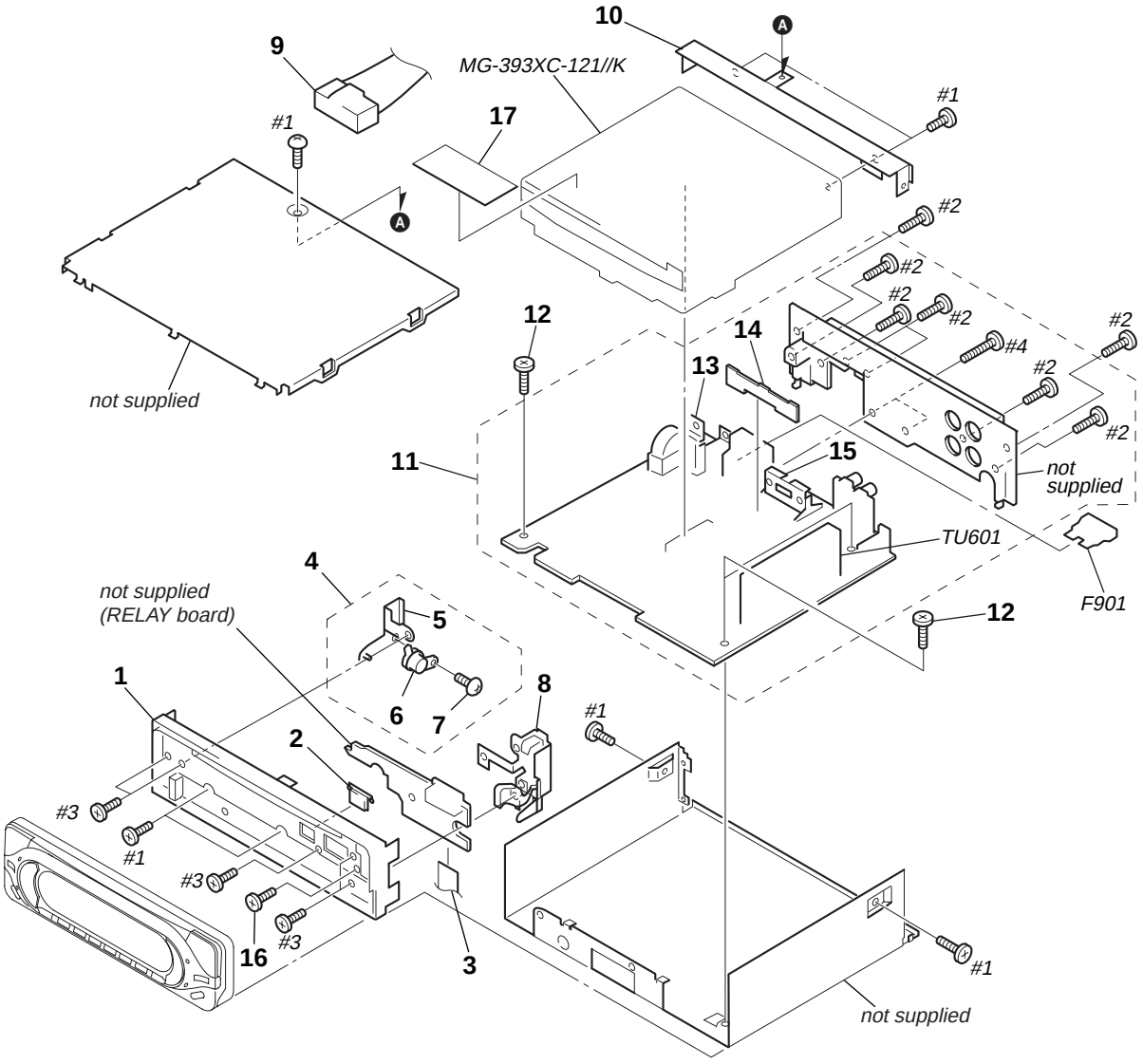


SECTION 4
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

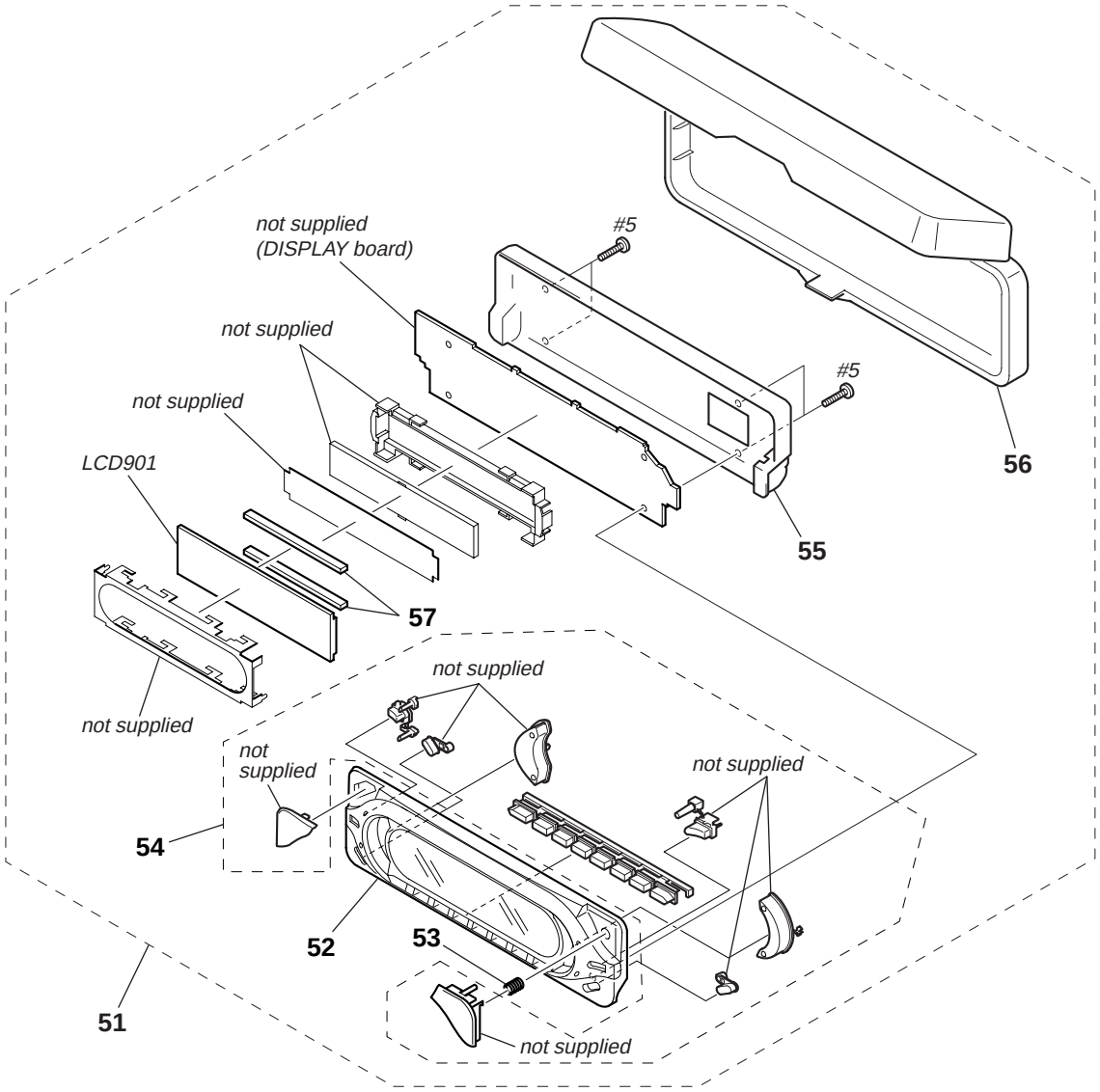
4-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	X-3382-626-1	PANEL ASSY (CD), SUB	
2	3-246-030-01	BUTTON (EJECT)	
3	1-792-173-11	CABLE, FLAT (FFC) 12P	
4	X-3376-686-4	GEAR ASSY	
* 5	X-3376-689-2	BRACKET (GEAR) ASSY	
6	3-030-909-03	DAMPER, OIL	
7	3-713-786-51	SCREW +P 2X3	
8	X-3376-687-2	LOCK ASSY	
9	1-776-206-21	CORD (WITH CONNECTOR) (POWER)	
10	3-246-007-01	BRACKET (CD)	
11	A-3274-626-A	MAIN BOARD, COMPLETE	
12	3-922-535-11	SCREW (+BTT)	

Ref. No.	Part No.	Description	Remark
13	3-041-261-11	BRACKET (TR)	
14	A-3274-646-A	SPEAKER BOARD, COMPLETE	
* 15	3-019-565-01	BRACKET (IC)	
16	3-035-250-02	SCREW (LOCK)	
17	3-223-913-11	LABEL (OP CAUTION)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU601	A-3220-835-A	TUNER UNIT (TUX-010)	
#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#2	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#3	7-621-772-20	SCREW +B 2X5	
#4	7-685-795-09	SCREW +PTT 2.6X12 (S)	

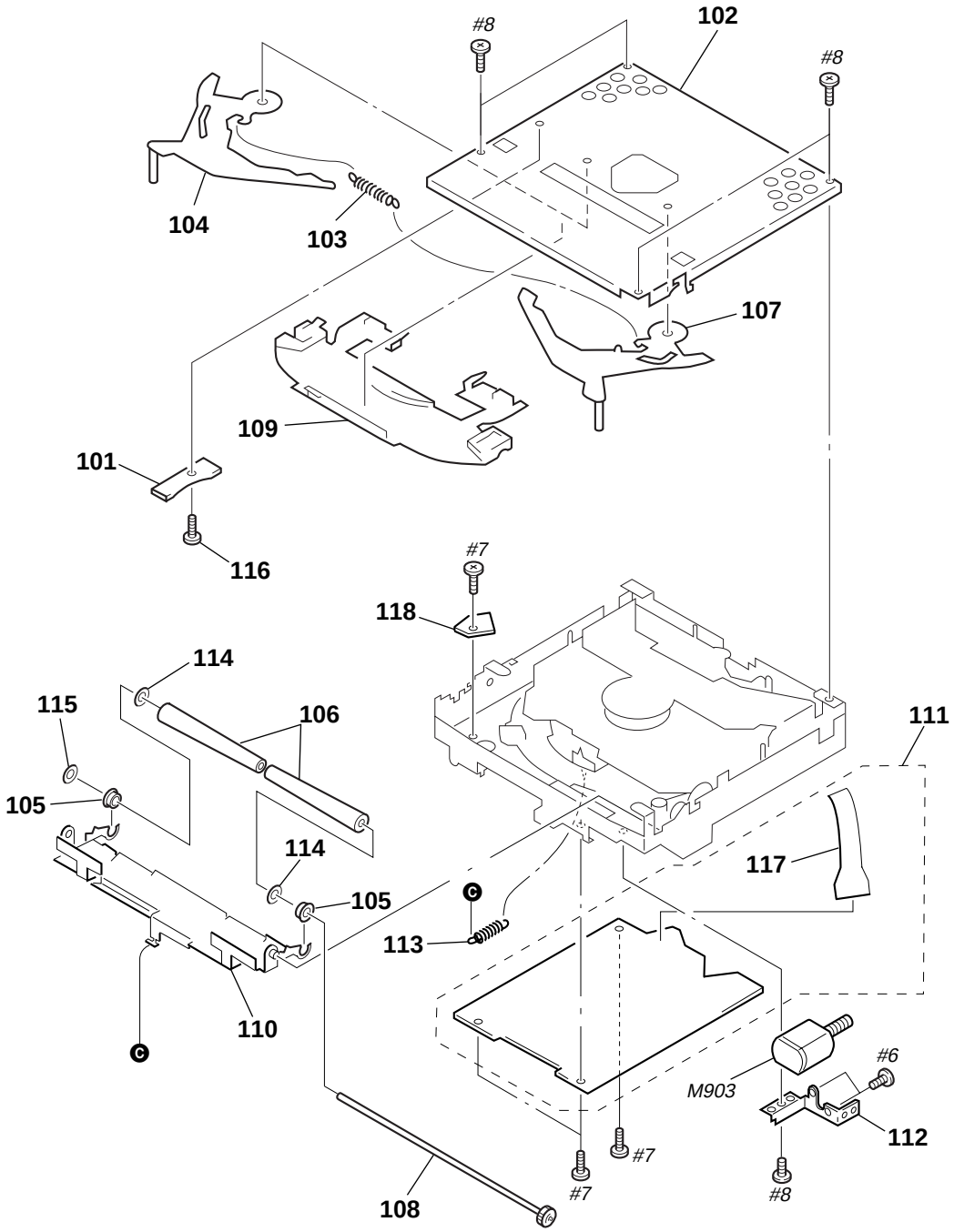
4-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	A-3315-990-A	PANEL COMPLETE ASSY, FRONT (CA590X)	
51	A-3315-995-A	PANEL COMPLETE ASSY, FRONT (CA540X)	
52	X-3382-761-1	PANEL (S) ASSY, FRONT (CA590X)	
52	X-3382-762-1	PANEL (S) ASSY, FRONT (CA540X)	
53	3-246-534-01	SPRING (RELEASE)	
54	X-3382-921-1	BUTTON ASSY (S)	

Ref. No.	Part No.	Description	Remark
55	X-3382-625-1	PANEL ASSY, FRONT BACK	
56	X-3378-390-3	CASE ASSY (for FRONT PANEL)	
57	1-694-989-11	CONDUCTIVE BOARD, CONNECTION	
LCD901	1-805-077-11	DISPLAY PANEL, LIQUID CRYSTAL	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	

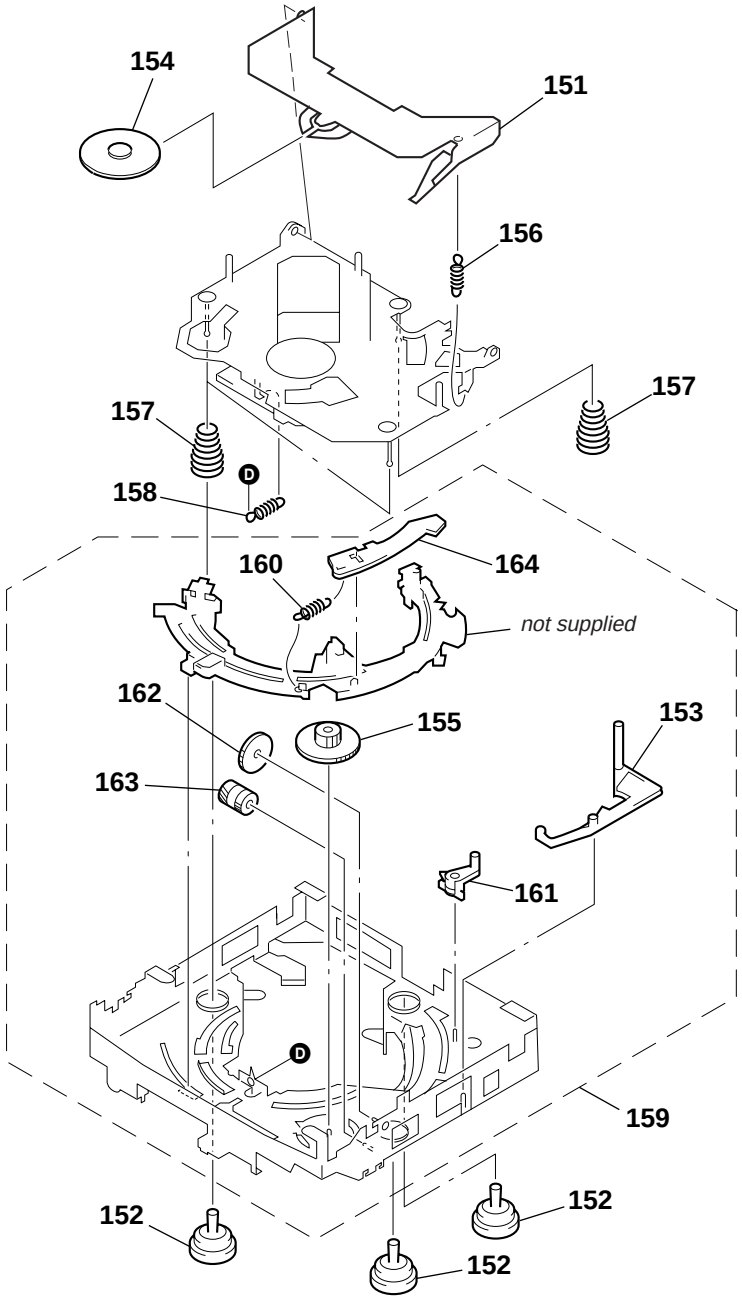
4-3. CD MECHANISM SECTION (1)
(MG-393XC-121//K)



Ref. No.	Part No.	Description	Remark
101	1-683-283-11	IN SELF SW BOARD	
102	3-040-039-03	CHASSIS (T)	
103	3-040-038-01	SPRING (LR), TENSION	
104	3-040-050-01	LEVER (L)	
105	3-040-022-01	RETAINER (ROLLER), SHAFT	
106	3-040-044-01	ROLLER (S)	
107	3-040-067-01	LEVER (R)	
108	A-3301-980-A	SHAFT ROLLER ASSY	
109	3-040-037-01	GUIDE (DISC)	
110	3-040-040-03	ARM (ROLLER)	
111	A-3283-233-A	SERVO BOARD, COMPLETE	

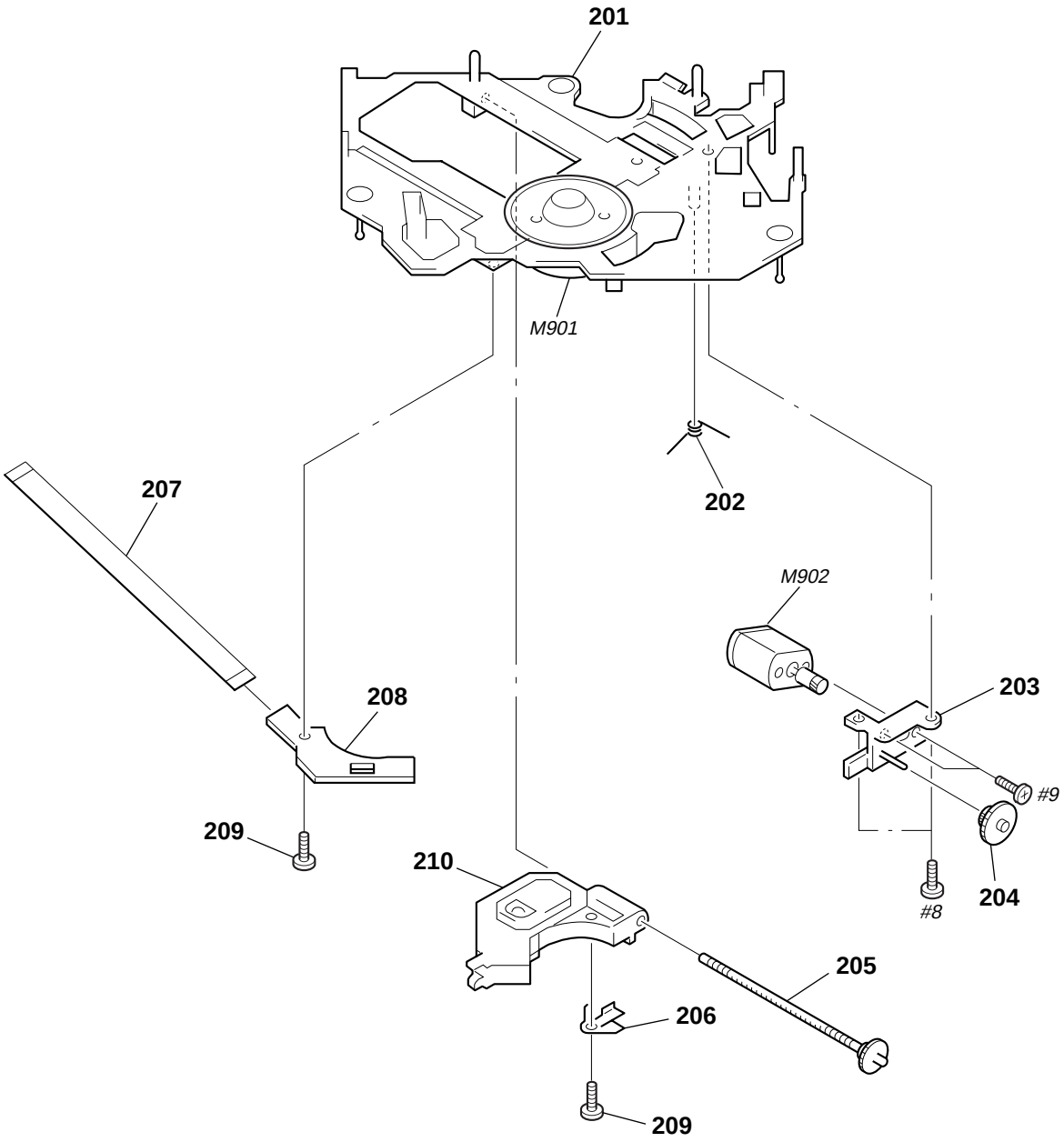
Ref. No.	Part No.	Description	Remark
112	3-221-779-02	BRACKET (MOTOR)	
113	3-040-034-01	SPRING (RA), TENSION	
114	3-040-042-01	WASHER	
115	3-043-880-01	RING (RA), RETAINING	
116	3-044-206-11	SCREW, SPECIAL	
117	1-683-284-11	FLEXIBLE BOARD	
118	1-685-337-11	LOAD SW BOARD	
M903	A-3315-039-A	MOTOR SUB ASSY, LO (LOADING)	
#6	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
#7	7-628-253-00	SCREW, SPECIAL	
#8	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	

4-4. CD MECHANISM SECTION (2)
(MG-393XC-121//K)



Ref. No.	Part No.	Description	Remark
151	3-040-025-02	ARM, CHUCKING	
152	3-040-031-01	DAMPER (T)	
153	3-040-056-01	LEVER (D)	
154	3-040-024-01	RETAINER (DISC)	
155	3-040-054-01	WHEEL (LW), WORM	
156	3-040-026-01	SPRING (CH), TENSION	
157	3-040-032-01	SPRING (FL), COMPRESSION	
158	3-040-033-01	SPRING (KF1), TENSION	
159	A-3307-422-A	CHASSIS (M) COMPLETE ASSY	
160	3-040-059-01	SPRING (TR), TENSION	
161	3-040-057-01	LEVER (LOCK)	
162	3-040-058-01	GEAR (MDL)	
163	3-040-052-01	WHEEL (U), WORM	
164	3-040-051-02	LEVER (TR)	

4-5. CD MECHANISM SECTION (3)
(MG-393XC-121//K)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
201	X-3378-480-1	CHASSIS (OP) ASSY (including M901)	
202	3-040-029-01	SPRING (SL), TORSION	
203	3-040-045-01	BASE (DRIVING)	
204	3-040-194-01	GEAR (MIDWAY)	
205	A-3301-983-A	SHAFT (FEED) ASSY	
206	3-040-030-01	SPRING (FEED), PLATE	
207	1-823-641-11	CABLE, FLEXIBLE FLAT (6 CORE)	
208	1-683-282-11	SL SW BOARD	
209	3-909-607-01	SCREW	
⚠210	8-820-165-06	OPTICAL PICK-UP KSS-721A/C-RP	
M902	A-3301-985-A	MOTOR ASSY, SLED (SLED)	
#8	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#9	7-627-850-28	SCREW, PRECISION +P 1.4X3	

SECTION 5
ELECTRICAL PARTS LIST

DISPLAY

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		DISPLAY BOARD			
		**********			
	1-694-989-11	CONDUCTIVE BOARD, CONNECTION			
		< CAPACITOR >			
C951	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C952	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C953	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN901	1-817-158-11	PLUG, CONNECTOR 14P			
		< DIODE >			
D902	8-719-978-33	DIODE DTZ-TT11-6.8B			
D903	8-719-978-33	DIODE DTZ-TT11-6.8B			
D904	8-719-978-33	DIODE DTZ-TT11-6.8B			
D905	8-719-988-61	DIODE 1SS355TE-17			
D951	8-719-069-54	DIODE UDZS-TE-17-5.1B			
		< IC >			
IC901	6-702-852-01	IC LC75824W-E			
IC951	8-749-017-35	IC KSM-401N			
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-805-077-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED901	8-719-053-09	LED SML-310VTT86 (SOURCE)			
LED902	8-719-053-09	LED SML-310VTT86 (EQ3)			
LED903	8-719-053-09	LED SML-310VTT86 (EQ3)			
LED904	8-719-053-09	LED SML-310VTT86 (DSO)			
LED905	8-719-053-09	LED SML-310VTT86 (DSO)			
LED906	8-719-053-09	LED SML-310VTT86 (SEEK)			
LED914	6-500-459-01	LED NSCW505T-ARS (LCD BACK LIGHT)			
LED915	6-500-459-01	LED NSCW505T-ARS (LCD BACK LIGHT)			
		< SWITCH >			
LSW901	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (OFF)			
LSW902	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (MODE)			
LSW903	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SEL)			
LSW904	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (VOL +)			
LSW905	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (VOL –)			
LSW906	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (ATT)			
LSW907	1-771-883-11	SWITCH, TACTILE (WITH LED) (SENS)			
LSW908	1-771-883-11	SWITCH, TACTILE (WITH LED) (1)			
LSW909	1-771-883-11	SWITCH, TACTILE (WITH LED) (2)			
LSW910	1-771-883-11	SWITCH, TACTILE (WITH LED) (3/REP)			
LSW911	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SEEK +/ ▶▶ ▶▶I)			
LSW912	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SEEK –/ ◀◀ I◀◀)			
LSW913	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (DSPL)			
LSW914	1-771-883-11	SWITCH, TACTILE (WITH LED) (BTM)			
LSW915	1-771-883-11	SWITCH, TACTILE (WITH LED) (6)			
LSW916	1-771-883-11	SWITCH, TACTILE (WITH LED) (5)			
LSW917	1-771-883-11	SWITCH, TACTILE (WITH LED) (4/SHUF)			
		< RESISTOR >			
R901	1-216-819-11	METAL CHIP	680	5%	1/10W
R902	1-216-819-11	METAL CHIP	680	5%	1/10W
R903	1-216-819-11	METAL CHIP	680	5%	1/10W
R904	1-216-821-11	METAL CHIP	1K	5%	1/10W
R905	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R907	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R908	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R909	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R910	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R912	1-216-819-11	METAL CHIP	680	5%	1/10W
R913	1-216-819-11	METAL CHIP	680	5%	1/10W
R914	1-216-819-11	METAL CHIP	680	5%	1/10W
R915	1-216-821-11	METAL CHIP	1K	5%	1/10W
R916	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R917	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R918	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R919	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R920	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R940	1-216-815-11	METAL CHIP	330	5%	1/10W
R941	1-216-817-11	METAL CHIP	470	5%	1/10W
R942	1-216-815-11	METAL CHIP	330	5%	1/10W
R943	1-216-817-11	METAL CHIP	470	5%	1/10W
R951	1-216-815-11	METAL CHIP	330	5%	1/10W
R952	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R953	1-216-821-11	METAL CHIP	1K	5%	1/10W
R954	1-216-821-11	METAL CHIP	1K	5%	1/10W
R955	1-216-821-11	METAL CHIP	1K	5%	1/10W
R956	1-216-821-11	METAL CHIP	1K	5%	1/10W
R957	1-216-850-11	METAL CHIP	270K	5%	1/10W

DISPLAY **IN SELF SW** **LOAD SW** **MAIN**

Ref. No.	Part No.	Description			Remark
R958	1-216-821-11	METAL CHIP	1K	5%	1/10W
R959	1-216-821-11	METAL CHIP	1K	5%	1/10W
R960	1-216-821-11	METAL CHIP	1K	5%	1/10W
R961	1-216-857-11	METAL CHIP	1M	5%	1/10W
R966	1-216-815-11	METAL CHIP	330	5%	1/10W
R967	1-216-817-11	METAL CHIP	470	5%	1/10W
R968	1-216-815-11	METAL CHIP	330	5%	1/10W
R969	1-216-817-11	METAL CHIP	470	5%	1/10W
R972	1-216-809-11	METAL CHIP	100	5%	1/10W
R973	1-216-809-11	METAL CHIP	100	5%	1/10W
R974	1-216-809-11	METAL CHIP	100	5%	1/10W
R975	1-216-809-11	METAL CHIP	100	5%	1/10W
R976	1-216-809-11	METAL CHIP	100	5%	1/10W
R977	1-216-809-11	METAL CHIP	100	5%	1/10W
R978	1-216-811-11	METAL CHIP	150	5%	1/10W
R979	1-216-811-11	METAL CHIP	150	5%	1/10W
R980	1-216-809-11	METAL CHIP	100	5%	1/10W
R981	1-216-809-11	METAL CHIP	100	5%	1/10W
R982	1-216-809-11	METAL CHIP	100	5%	1/10W
R983	1-216-809-11	METAL CHIP	100	5%	1/10W
R984	1-216-864-11	METAL CHIP	0	5%	1/10W
R986	1-216-864-11	METAL CHIP	0	5%	1/10W
R987	1-216-864-11	METAL CHIP	0	5%	1/10W
R989	1-216-864-11	METAL CHIP	0	5%	1/10W
		< SWITCH >			
S902	1-771-884-11	SWITCH, TACTILE (WITH LED) (EQ3)			
S903	1-771-884-11	SWITCH, TACTILE (WITH LED) (DSO)			
S918	1-771-884-11	SWITCH, TACTILE (WITH LED) (SOURCE)			
**********					
	1-683-283-11	IN SELF SW BOARD			
		**********			
		< SWITCH >			
SW2	1-529-566-31	SWITCH, PUSH (1 KEY) (SELF)			
SW3	1-529-566-31	SWITCH, PUSH (1 KEY) (DISC IN)			
**********					
	1-685-337-11	LOAD SW BOARD			
		**********			
		< SWITCH >			
SW5	1-529-566-31	SWITCH, PUSH (1 KEY) (DOWN)			
**********					
	A-3274-626-A	MAIN BOARD, COMPLETE (including SPEAKER BOARD, COMPLETE)			
		**********			
*	3-019-565-01	BRACKET (IC)			
	3-041-261-11	BRACKET (TR)			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-795-09	SCREW +PTT 2.6X12 (S)			
		< CAPACITOR >			
C101	1-136-154-00	FILM	0.012uF	5%	50V
C103	1-124-259-11	ELECT	4.7uF	20%	16V
C104	1-124-259-11	ELECT	4.7uF	20%	16V
C105	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C106	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remark
C109	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C111	1-124-589-11	ELECT	47uF	20%	16V
C112	1-164-346-11	CERAMIC CHIP	1uF		16V
C113	1-164-346-11	CERAMIC CHIP	1uF		16V
C121	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C201	1-136-154-00	FILM	0.012uF	5%	50V
C202	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C203	1-124-259-11	ELECT	4.7uF	20%	16V
C204	1-124-259-11	ELECT	4.7uF	20%	16V
C205	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C206	1-164-346-11	CERAMIC CHIP	1uF		16V
C207	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C208	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C209	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C210	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C211	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C212	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C213	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C215	1-126-964-11	ELECT	10uF	20%	50V
C216	1-164-346-11	CERAMIC CHIP	1uF		16V
C221	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C401	1-126-163-11	ELECT	4.7uF	20%	50V
C407	1-126-964-11	ELECT	10uF	20%	50V
C426	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C432	1-124-589-11	ELECT	47uF	20%	16V
C603	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C604	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C605	1-104-665-11	ELECT	100uF	20%	10V
C606	1-126-947-11	ELECT	47uF	20%	10V
C608	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C610	1-126-964-11	ELECT	10uF	20%	50V
C611	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C612	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C613	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C614	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C615	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C617	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C618	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C619	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C620	1-104-665-11	ELECT	100uF	20%	10V
C621	1-104-396-11	ELECT	10uF	20%	16V
C622	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C623	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C624	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C625	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C626	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C627	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C631	1-126-964-11	ELECT	10uF	20%	50V
C633	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C637	1-216-295-11	SHORT CHIP	0		
C650	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C651	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C652	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C669	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C671	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C672	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C680	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C701	1-124-584-00	ELECT	100uF	20%	10V
C702	1-124-584-00	ELECT	100uF	20%	10V
C703	1-124-584-00	ELECT	100uF	20%	10V
C704	1-124-584-00	ELECT	100uF	20%	10V
C705	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C706	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C707	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-124-229-00	ELECT	33uF	20%	10V
C802	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C803	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C804	1-164-160-11	CERAMIC CHIP	20PF	5%	50V
C807	1-115-156-11	CERAMIC CHIP	1uF		10V
C809	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C816	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C817	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C841	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C842	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C846	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C847	1-115-156-11	CERAMIC CHIP	1uF		10V
C848	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C851	1-126-940-11	ELECT	330uF	20%	16V
C852	1-216-864-11	METAL CHIP	0	5%	1/10W
C853	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C854	1-469-144-21	FERRITE, EMI (SMD)			
C869	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C901	1-135-473-21	ELECT	3300uF	20%	16V
C902	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C904	1-126-160-11	ELECT	1uF	20%	50V
C905	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C907	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C909	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C913	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C914	1-104-665-11	ELECT	100uF	20%	10V
C915	1-110-654-11	DOUBLE LAYERS	0.047F		5.5V
C916	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C919	1-124-229-00	ELECT	33uF	20%	10V
C920	1-124-584-00	ELECT	100uF	20%	10V
C931	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C932	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C951	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C952	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C960	1-216-864-11	METAL CHIP	0	5%	1/10W
		< JACK >			
CNJ601	1-793-598-11	JACK (ANTENNA)			
CNP802	1-566-822-11	JACK, STEREO MINIATURE (DIA.3.5) (REMOTE IN)			
		< CONNECTOR >			
CNJ801	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
CNP701	1-815-260-11	CONNECTOR, BOARD TO BOARD 30P			
CNP803	1-569-907-11	SOCKET, CONNECTOR 12P			
CNP901	1-774-701-21	PIN, CONNECTOR 16P			
		< SURGE PROTECTOR >			
CP601	1-803-902-21	PROTECTOR CHIP, SURGE			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D402	8-719-988-61	DIODE 1SS355TE-17			
D444	8-719-988-61	DIODE 1SS355TE-17			
D604	8-719-109-85	DIODE RD5.1ES-B2			
D801	8-719-991-33	DIODE 1SS133T-77			
D802	8-719-978-33	DIODE DTZ-TT11-6.8B			
D803	8-719-109-97	DIODE RD6.8ES-B2			
D804	8-719-978-33	DIODE DTZ-TT11-6.8B			
D805	8-719-978-33	DIODE DTZ-TT11-6.8B			
D806	8-719-109-97	DIODE RD6.8ES-B2			
D807	8-719-109-97	DIODE RD6.8ES-B2			
D808	8-719-109-97	DIODE RD6.8ES-B2			
D810	8-719-991-33	DIODE 1SS133T-77			
D813	8-719-109-97	DIODE RD6.8ES-B2			
D851	8-719-050-84	DIODE RB441Q-40T-77			
D852	8-719-056-93	DIODE UDZ-TE-17-18B			
D853	8-719-056-93	DIODE UDZ-TE-17-18B			
D854	8-719-109-97	DIODE RD6.8ES-B2			
D901	8-719-049-38	DIODE 1N5404TU			
D903	8-719-109-97	DIODE RD6.8ES-B2			
D907	8-719-110-49	DIODE RD18ES-B2			
D908	8-719-921-63	DIODE MTZJ-7.5B			
D909	8-719-109-97	DIODE RD6.8ES-B2			
D911	8-719-109-89	DIODE RD5.6ES-B2			
D913	8-719-069-60	DIODE UDZS-TE-17-9.1B			
D915	8-719-200-82	DIODE 11ES2			
D916	8-719-200-82	DIODE 11ES2			
D917	8-719-200-82	DIODE 11ES2			
D918	8-719-200-82	DIODE 11ES2			
D919	8-719-200-82	DIODE 11ES2			
D920	8-719-053-18	DIODE 1SR154-400TE-25			
D921	8-719-053-18	DIODE 1SR154-400TE-25			
D922	8-719-200-82	DIODE 11ES2			
D923	8-719-110-14	DIODE RD9.1ES-B3			
D930	8-719-109-89	DIODE RD5.6ES-B2			
D931	8-719-988-61	DIODE 1SS355TE-17			
D932	8-719-988-61	DIODE 1SS355TE-17			
D933	8-719-053-18	DIODE 1SR154-400TE-25			
D934	8-719-200-82	DIODE 11ES2			
D955	8-719-988-61	DIODE 1SS355TE-17			
D999	8-719-991-33	DIODE 1SS133T-77			
		< JUMPER RESISTOR >			
FB701	1-216-864-11	METAL CHIP	0	5%	1/10W
FB702	1-216-864-11	METAL CHIP	0	5%	1/10W
		< IC >			
IC101	8-759-827-14	IC TA8268AH			
IC401	6-703-304-01	IC BD3802F-FE2			
IC601	8-759-586-59	IC TB2118F-EL-S			
IC801	6-802-553-01	IC uPD780076YGK-R24-9ET			
IC802	8-759-096-16	IC MM1175XFF			
IC902	8-759-837-07	IC S7139SF			
		< JUMPER RESISTOR >			
JR411	1-216-864-11	METAL CHIP	0	5%	1/10W
JR412	1-216-864-11	METAL CHIP	0	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
JR605	1-216-864-11	METAL CHIP	0	5%	1/10W
JR606	1-216-864-11	METAL CHIP	0	5%	1/10W
JR801	1-216-864-11	METAL CHIP	0	5%	1/10W
JR802	1-216-864-11	METAL CHIP	0	5%	1/10W
JR805	1-216-864-11	METAL CHIP	0	5%	1/10W
JR806	1-216-864-11	METAL CHIP	0	5%	1/10W
JR807	1-216-864-11	METAL CHIP	0	5%	1/10W
JR808	1-216-864-11	METAL CHIP	0	5%	1/10W
JR810	1-216-295-11	SHORT CHIP	0		
JR814	1-216-864-11	METAL CHIP	0	5%	1/10W
JR901	1-216-864-11	METAL CHIP	0	5%	1/10W
JR902	1-216-864-11	METAL CHIP	0	5%	1/10W
		< COIL >			
L601	1-410-508-11	INDUCTOR	8.2uH		
L603	1-412-006-31	INDUCTOR	10uH		
L604	1-410-750-41	INDUCTOR	0.47uH		
L669	1-424-759-21	COIL (AM ANT)			
L701	1-410-513-11	INDUCTOR	22uH		
L702	1-410-513-11	INDUCTOR	22uH		
L901	1-419-476-31	COIL, CHOKE	250uH		
		< JACK >			
PJ401	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT REAR)			
		< TRANSISTOR >			
Q101	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q102	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q201	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q202	8-729-920-21	TRANSISTOR	DTC314TK-T-146		
Q401	8-729-055-92	TRANSISTOR	SRA2203SF		
Q402	8-729-055-96	TRANSISTOR	SRC1203SF		
Q603	8-729-030-51	TRANSISTOR	2SA1515S-R-TP		
Q604	8-729-055-96	TRANSISTOR	SRC1203SF		
Q605	8-729-030-51	TRANSISTOR	2SA1515S-R-TP		
Q606	8-729-055-96	TRANSISTOR	SRC1203SF		
Q801	8-729-055-92	TRANSISTOR	SRA2203SF		
Q902	8-729-049-40	TRANSISTOR	2SC5343SFG		
Q903	8-729-055-96	TRANSISTOR	SRC1203SF		
Q904	8-729-055-96	TRANSISTOR	SRC1203SF		
Q905	8-729-055-96	TRANSISTOR	SRC1203SF		
Q906	8-729-055-92	TRANSISTOR	SRA2203SF		
Q907	8-729-021-82	TRANSISTOR	2SD2396K		
Q908	8-729-055-92	TRANSISTOR	SRA2203SF		
Q909	8-729-055-96	TRANSISTOR	SRC1203SF		
Q910	8-729-920-85	TRANSISTOR	2SD1664-QR		
Q911	8-729-055-96	TRANSISTOR	SRC1203SF		
Q912	8-729-055-92	TRANSISTOR	SRA2203SF		
Q913	8-729-019-00	TRANSISTOR	2SD2394-G		
Q914	8-729-055-96	TRANSISTOR	SRC1203SF		
Q915	8-729-049-43	TRANSISTOR	STB1132Y		
Q916	8-729-049-43	TRANSISTOR	STB1132Y		
Q917	8-729-820-46	TRANSISTOR	2SB1202FAS		
Q918	8-729-055-92	TRANSISTOR	SRA2203SF		
Q919	8-729-920-85	TRANSISTOR	2SD1664-QR		
Q920	8-729-920-85	TRANSISTOR	2SD1664-QR		

Ref. No.	Part No.	Description			Remark
Q921	8-729-055-96	TRANSISTOR	SRC1203SF		
Q922	8-729-055-96	TRANSISTOR	SRC1203SF		
Q929	8-729-055-96	TRANSISTOR	SRC1203SF		
		< RESISTOR >			
R101	1-216-833-11	METAL CHIP	10K	5%	1/10W
R102	1-216-809-11	METAL CHIP	100	5%	1/10W
R103	1-216-809-11	METAL CHIP	100	5%	1/10W
R104	1-216-833-11	METAL CHIP	10K	5%	1/10W
R107	1-216-841-11	METAL CHIP	47K	5%	1/10W
R108	1-216-841-11	METAL CHIP	47K	5%	1/10W
R109	1-216-809-11	METAL CHIP	100	5%	1/10W
R110	1-216-809-11	METAL CHIP	100	5%	1/10W
R111	1-218-882-11	METAL CHIP	30K	0.5%	1/10W
R112	1-216-845-11	METAL CHIP	100K	5%	1/10W
R115	1-216-833-11	METAL CHIP	10K	5%	1/10W
R116	1-216-833-11	METAL CHIP	10K	5%	1/10W
R121	1-216-821-11	METAL CHIP	1K	5%	1/10W
R122	1-216-833-11	METAL CHIP	10K	5%	1/10W
R201	1-216-833-11	METAL CHIP	10K	5%	1/10W
R202	1-216-833-11	METAL CHIP	10K	5%	1/10W
R207	1-216-841-11	METAL CHIP	47K	5%	1/10W
R208	1-216-841-11	METAL CHIP	47K	5%	1/10W
R209	1-216-809-11	METAL CHIP	100	5%	1/10W
R210	1-216-809-11	METAL CHIP	100	5%	1/10W
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R222	1-216-833-11	METAL CHIP	10K	5%	1/10W
R401	1-216-833-11	METAL CHIP	10K	5%	1/10W
R404	1-216-821-11	METAL CHIP	1K	5%	1/10W
R407	1-249-437-11	CARBON	47K	5%	1/4W
R408	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R410	1-216-805-11	METAL CHIP	47	5%	1/10W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-216-821-11	METAL CHIP	1K	5%	1/10W
R603	1-249-407-11	CARBON	150	5%	1/4W
R604	1-216-821-11	METAL CHIP	1K	5%	1/10W
R605	1-216-841-11	METAL CHIP	47K	5%	1/10W
R606	1-216-841-11	METAL CHIP	47K	5%	1/10W
R607	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R608	1-216-833-11	METAL CHIP	10K	5%	1/10W
R609	1-216-809-11	METAL CHIP	100	5%	1/10W
R610	1-216-809-11	METAL CHIP	100	5%	1/10W
R611	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R612	1-216-833-11	METAL CHIP	10K	5%	1/10W
R613	1-216-833-11	METAL CHIP	10K	5%	1/10W
R614	1-249-409-11	CARBON	220	5%	1/4W
R615	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R616	1-216-845-11	METAL CHIP	100K	5%	1/10W
R617	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R618	1-216-845-11	METAL CHIP	100K	5%	1/10W
R619	1-216-817-11	METAL CHIP	470	5%	1/10W
R620	1-216-817-11	METAL CHIP	470	5%	1/10W
R622	1-216-817-11	METAL CHIP	470	5%	1/10W
R628	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R704	1-216-821-11	METAL CHIP	1K	5%	1/10W
R705	1-216-821-11	METAL CHIP	1K	5%	1/10W
R706	1-216-813-11	METAL CHIP	220	5%	1/10W
R707	1-216-849-11	METAL CHIP	220K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R708	1-216-821-11	METAL CHIP	1K	5%	1/10W
R709	1-216-821-11	METAL CHIP	1K	5%	1/10W
R710	1-216-821-11	METAL CHIP	1K	5%	1/10W
R711	1-216-821-11	METAL CHIP	1K	5%	1/10W
R712	1-216-821-11	METAL CHIP	1K	5%	1/10W
R714	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R716	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R801	1-216-809-11	METAL CHIP	100	5%	1/10W
R802	1-216-809-11	METAL CHIP	100	5%	1/10W
R803	1-216-849-11	METAL CHIP	220K	5%	1/10W
R804	1-216-809-11	METAL CHIP	100	5%	1/10W
R805	1-216-809-11	METAL CHIP	100	5%	1/10W
R806	1-249-417-11	CARBON	1K	5%	1/4W
R807	1-216-849-11	METAL CHIP	220K	5%	1/10W
R809	1-216-849-11	METAL CHIP	220K	5%	1/10W
R810	1-249-417-11	CARBON	1K	5%	1/4W
R811	1-249-417-11	CARBON	1K	5%	1/4W
R812	1-249-417-11	CARBON	1K	5%	1/4W
R814	1-216-809-11	METAL CHIP	100	5%	1/10W
R815	1-216-809-11	METAL CHIP	100	5%	1/10W
R816	1-216-841-11	METAL CHIP	47K	5%	1/10W
R817	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R818	1-216-841-11	METAL CHIP	47K	5%	1/10W
R819	1-216-849-11	METAL CHIP	220K	5%	1/10W
R821	1-249-433-11	CARBON	22K	5%	1/4W
R822	1-216-849-11	METAL CHIP	220K	5%	1/10W
R823	1-249-417-11	CARBON	1K	5%	1/4W
R824	1-216-849-11	METAL CHIP	220K	5%	1/10W
R836	1-249-425-11	CARBON	4.7K	5%	1/4W
R840	1-216-809-11	METAL CHIP	100	5%	1/10W
R841	1-216-809-11	METAL CHIP	100	5%	1/10W
R842	1-216-821-11	METAL CHIP	1K	5%	1/10W
R844	1-247-807-31	CARBON	100	5%	1/4W
R845	1-247-807-31	CARBON	100	5%	1/4W
R846	1-247-807-31	CARBON	100	5%	1/4W
R847	1-216-809-11	METAL CHIP	100	5%	1/10W
R848	1-216-845-11	METAL CHIP	100K	5%	1/10W
R849	1-216-845-11	METAL CHIP	100K	5%	1/10W
R850	1-216-845-11	METAL CHIP	100K	5%	1/10W
R851	1-249-431-11	CARBON	15K	5%	1/4W
R852	1-216-809-11	METAL CHIP	100	5%	1/10W
R853	1-216-809-11	METAL CHIP	100	5%	1/10W
R855	1-216-821-11	METAL CHIP	1K	5%	1/10W
R856	1-249-409-11	CARBON	220	5%	1/4W
R857	1-249-409-11	CARBON	220	5%	1/4W
R858	1-216-841-11	METAL CHIP	47K	5%	1/10W
R859	1-216-809-11	METAL CHIP	100	5%	1/10W
R860	1-216-813-11	METAL CHIP	220	5%	1/10W
R901	1-249-425-11	CARBON	4.7K	5%	1/4W
R906	1-249-425-11	CARBON	4.7K	5%	1/4W
R907	1-216-841-11	METAL CHIP	47K	5%	1/10W
R908	1-216-841-11	METAL CHIP	47K	5%	1/10W
R909	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R913	1-249-417-11	CARBON	1K	5%	1/4W
R914	1-216-821-11	METAL CHIP	1K	5%	1/10W
R916	1-249-413-11	CARBON	470	5%	1/4W
R917	1-249-409-11	CARBON	220	5%	1/4W
R918	1-216-845-11	METAL CHIP	100K	5%	1/10W
R919	1-249-421-11	CARBON	2.2K	5%	1/4W
R920	1-216-849-11	METAL CHIP	220K	5%	1/10W
R922	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R923	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R924	1-249-404-00	CARBON	82	5%	1/4W
R925	1-249-404-00	CARBON	82	5%	1/4W
R926	1-249-404-00	CARBON	82	5%	1/4W
R927	1-249-404-00	CARBON	82	5%	1/4W
R928	1-249-404-00	CARBON	82	5%	1/4W
R929	1-249-404-00	CARBON	82	5%	1/4W
R930	1-216-845-11	METAL CHIP	100K	5%	1/10W
R931	1-249-421-11	CARBON	2.2K	5%	1/4W
R932	1-249-421-11	CARBON	2.2K	5%	1/4W
R933	1-216-821-11	METAL CHIP	1K	5%	1/10W
R934	1-216-041-00	METAL CHIP	470	5%	1/10W
R935	1-249-395-11	CARBON	15	5%	1/4W
R936	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R937	1-216-041-00	METAL CHIP	470	5%	1/10W
R951	1-216-821-11	METAL CHIP	1K	5%	1/10W
R952	1-216-809-11	METAL CHIP	100	5%	1/10W
R953	1-216-809-11	METAL CHIP	100	5%	1/10W

< SWITCH >

SW801	1-786-458-11	SWITCH, PUSH (1 KEY) (NOSE DET)
SW802	1-762-638-21	SWITCH, TACTILE (RESET)
SW803	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)

< THERMISTOR (POSITIVE) >

TH851	1-801-792-21	THERMISTOR, POSITIVE
TH901	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510

< TUNER >

TU601	A-3220-835-A	TUNER UNIT (TUX-010)

< VIBRATOR >

X601	1-781-246-21	VIBRATOR, CRYSTAL (10.25MHz)
X801	1-795-259-11	VIBRATOR, CERAMIC (8.38MHz)
X802	1-567-098-41	VIBRATOR, CRYSTAL (32kHz)

****

RELAY BOARD

****

	1-792-173-11	CABLE, FLAT (FFC) 12P (CNP903)

< CONNECTOR >

CNP902	1-817-159-11	SOCKET, CONNECTOR 14P

< DIODE >

LED930	8-719-082-38	LED CL-270SR-C-TS (DOOR INDICATOR)
LED931	8-719-053-09	LED SML-310VTT86 (⏏)

< RESISTOR >

R930	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R931	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R932	1-216-823-11	METAL CHIP	1.5K	5%	1/10W

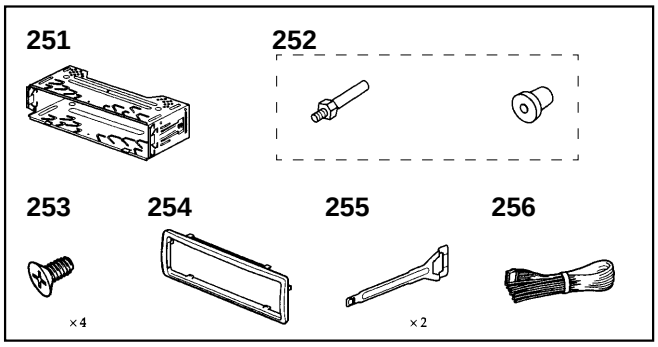
RELAY **SERVO** **SL SW** **SPEAKER**

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S931	1-771-884-11	SWITCH, TACTILE (WITH LED) (⏏)			
**********					
	A-3283-233-A	SERVO BOARD, COMPLETE			
		**********			
	1-683-284-11	FLEXIBLE BOARD			
		< CAPACITOR >			
C1	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4	1-104-609-11	ELECT CHIP	100uF	20%	4V
C5	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C6	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C8	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C9	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C10	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C11	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C13	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C14	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C15	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C16	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C18	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C19	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C20	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C21	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C22	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C23	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C24	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C25	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C26	1-126-391-11	ELECT CHIP	47uF	20%	6.3V
C27	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C29	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C30	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C34	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C35	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C36	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C37	1-126-393-11	ELECT CHIP	33uF	20%	10V
C38	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C40	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C41	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C43	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C44	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C45	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN1	1-815-352-11	CONNECTOR, BOARD TO BOARD 30P			
CN3	1-816-275-21	CONNECTOR, FFC/FPC 6P			
		< JUMPER RESISTOR >			
FB1	1-216-864-11	METAL CHIP	0	5%	1/10W
		< IC >			
IC1	8-759-699-98	IC uPD63711GC-8EU			
IC2	8-759-658-87	IC BA5810FP-E2			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q1	8-729-904-87	TRANSISTOR 2SB1197K-R			
		< RESISTOR >			
R3	1-216-797-11	METAL CHIP	10	5%	1/10W
R5	1-218-344-11	METAL CHIP	7.5K	5%	1/10W
R7	1-216-839-11	METAL CHIP	33K	5%	1/10W
R8	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9	1-216-840-11	METAL CHIP	39K	5%	1/10W
R10	1-216-835-11	METAL CHIP	15K	5%	1/10W
R12	1-216-837-11	METAL CHIP	22K	5%	1/10W
R14	1-216-841-11	METAL CHIP	47K	5%	1/10W
R15	1-216-841-11	METAL CHIP	47K	5%	1/10W
R17	1-216-809-11	METAL CHIP	100	5%	1/10W
R18	1-216-809-11	METAL CHIP	100	5%	1/10W
R19	1-216-809-11	METAL CHIP	100	5%	1/10W
R20	1-216-809-11	METAL CHIP	100	5%	1/10W
R21	1-216-821-11	METAL CHIP	1K	5%	1/10W
R22	1-216-821-11	METAL CHIP	1K	5%	1/10W
R26	1-216-797-11	METAL CHIP	10	5%	1/10W
R29	1-216-833-11	METAL CHIP	10K	5%	1/10W
R30	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X1	1-795-520-11	VIBRATOR, CERAMIC (16.9344MHz)			
**********					
	1-683-282-11	SL SW BOARD			
		**********			
		< SWITCH >			
SW4	1-529-565-41	SWITCH, PUSH (1 KEY) (LIMIT)			
**********					
	A-3274-646-A	SPEAKER BOARD, COMPLETE (supplied with MAIN BOARD, COMPLETE)			
		**********			
**********					
		MISCELLANEOUS			
		**********			
9	1-776-206-21	CORD (WITH CONNECTOR) (POWER)			
201	X-3378-480-1	CHASSIS (OP) ASSY (including M901)			
207	1-823-641-11	CABLE, FLEXIBLE FLAT (6 CORE)			
⚠210	8-820-165-06	OPTICAL PICK-UP KSS-721A/C-RP			
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A			
M902	A-3301-985-A	MOTOR ASSY, SLED (SLED)			
M903	A-3315-039-A	MOTOR SUB ASSY, LO (LOADING)			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES	
		**********	
	1-476-526-34	REMOTE COMMANDER (RM-X115) (CA590X)	
	3-230-047-01	LID, BATTERY CASE (for RM-X115) (CA590X)	
	3-247-734-21	MANUAL, INSTRUCTION (ENGLISH,SPANISH, TRADITIONAL CHINESE)	
	3-247-736-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,TRADITIONAL CHINESE)	
	X-3378-390-3	CASE ASSY (for FRONT PANEL)	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	X-3382-647-1	FRAME ASSY, FITTING	
252	X-3366-405-1	SCREW ASSY (EXP), FITTING	
253	3-934-325-01	SCREW (+K 5X8 TP)	
254	3-246-035-01	COLLAR	
255	3-246-471-01	KEY (FRAME)	
256	1-776-206-21	CORD (WITH CONNECTOR) (POWER)	



REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2002. 12	New